

MANUFACTURERS' RECORD

A
WEEKLY SOUTHERN INDUSTRIAL
RAILROAD AND FINANCIAL NEWSPAPER.

CONTENTS.

EDITORIAL.

Texas Leads Off in Preparing for the World's Fair	5
"Per Capita Iron Consumption"	6
Free Advertising for Southern Investments	7
Development of Southern Ores	7
Let the Railroads Alone	8
To Investors and Manufacturers	8
\$7 a Ton Pig Iron	43
The Storage Warrant System	43
North Carolina's First Coke Iron Furnace	43
Editorial Short Notes	5, 6, 7, 8

CONSTRUCTION DEPARTMENT.

Full particulars regarding all industrial enterprises organized in the South during the past week	40-42
Burned	42
Building Notes	42
Machinery Wanted	44

RAILROAD DEPARTMENT.

President Kimball's Report	37
The Piedmont Air Line	37
Seaboard Air Line System	37
Railroad Construction	37

CORRESPONDENCE AND NOTES.

Bessemer Ores in Georgia	9
General Notes	9
Roanoke Falls—A Great Work at Weldon, N. C., Nearing Completion	10
Staunton Builds Surely and Solidly	10
Jay Gould's Views	11
A Busy Week in the South	42
Senator Cameron Against the Force Bill	43
Southern Immigration	43
The House Shipping Bill	43
The Basic Steel Patents	44
Literary Notes	44
Notes from Dallas, Texas	75
British Impressions of the South	75

INDUSTRIAL NOTES.

Trade Notes	52
Illustrated Descriptions of Machinery	47, 60, 69
Iron Market Report	70
Eastern Lumber Markets	74

FINANCIAL DEPARTMENT.

New Banks	38
Bonds, Stocks and Other Notes	38
Southern Stock Quotations	38

\$4.00 per year.
Single Copy
10 Cents.

VOL. XVIII
No. 20.

Baltimore, December 20, 1890.

Classified Index of Advertisers.

[FOR ALPHABETICAL INDEX WITH PAGES, SEE PAGE 77.]

- Acid Chambers.**
Edward Allen.
Valk & Murdoch Iron Works.
- Air Compressors.**
Ingersoll-Sergeant Rock Drill Co.
Rand Drill Co.
- Architects.**
Fava, Naef & Co.
Gray & Fitch.
Raeder, Coffin & Crocker
C. R. Makepeace & Co.
Lockwood, Greene & Co.
Drew, Baldwin & Co.
- Architectural Iron Work.**
Belmont Iron Wks., Ltd.
Chickasaw Iron Works.
Manly Mfg. Co.
- Artesian Wells.**
Cook Well Co.
- Auto. Sprinklers.**
Providence Steam & Gas Pipe Co.
- Bankers & Brokers.**
Alex. Brown & Sons.
E. B. Newhall.
N. W. Harris & Co.
Wilson, Colston & Co.
Jno. L. Williams & Son.
Joel Hayden & Co.
Middendorf, Oliver & Co.
Southern Investment Co.
Moorehead & Ogden.
Nat'l Bank of Comm'ce.
- Barrel Machinery.**
(See Wood-Working Machinery.)
- Bath Tubs.**
Haines, Jones & Cadbury Co.
- Bearings.**
North American Metal-lic Iron Co.
- Bells.**
Henry McShane & Co.
- Belting.**
Chesapeake Belting Co.
Providence Belting Co.
Nashville Rapid Tann'g & Belt Mfg. Co.
Gandy Belting Co.
Chicago Rawh. Mfg. Co.
Page Belting Co.
Shultz Belting Co.
- Belting (Chain.)**
F. H. C. Mey.
Jeffrey Mfg. Co.
Link Belt Engineer'g Co.
- Belt Holders.**
W. R. Sandley & Co.
- Blacksmiths' Tools.**
M. L. Edwards Mfg. Co.
Empire Port. Forge Co.
Buffalo Forge Co.
Fulton Iron & En. Wks.
Holt Mfg. Co.
- Blinds.**
Hartman & Durstine.
Wm. Willer.
- Blocks (Tackle) & Sheaves.**
Fulton Iron & En. Wks.
Western Block Co.
- Blowers and Exhaust Fans.**
Geo. P. Clark.
Huyett & Smith Mfg. Co.
Buffalo Forge Co.
B. F. Sturtevant.
- Boat Builders.**
H. V. Partelow & Co.
- Boiler Fronts and Fittings.**
E. Keeler Co.
Todd Pul. & Shaft Wks.
Vulcan Iron Works Co.
- Boilers.**
(See also Machinery.)
E. Keeler Co.
Talbot & Sons.
Thos. P. Conard.
C. H. Dutton & Co.
Armstrong Bros.
Southern Machy. Co.
F. M. Arthur & Co.
Lefel Water Wheel & Engine Co.
Cleveland & Hardwick.
Russell & Co.
Fulton Boiler Works.
Rice & Whitacre Mfg. Co.
W. B. Pollock & Co.
Geo. Miles.
Chattanooga Saw Wks.
Dan Shea & Co.
I. C. McNeil Co.
Oil Well Sup. Co., Lim.
Chickasaw Iron Works.
Porter Mfg. Co., Lim.
Atlanta Machine Wks.
Heine Safety Boiler Co.
Tudor Boiler Mfg. Co.
Valk & Murdoch I. Wks.
Ed. Kendall & Sons.
Babcock & Wilcox Co.
Hewes & Phillips Iron Works.
Frick Co.
Harrison Sfty. B'l'r. Wks.
Rochester Machine Tool Wks.
Sharon Boiler Wks. Lim.
Geo. W. Tift, Sons & Co.
Lowell S'm Boiler Wks.
Taylor Mfg. Co.
Webster, Camp & Lane Machine Co.
E. J. Wood.
- Boiler Appliances.**
Wm. Baragwanath & Son.
Paul F. Hoppe.
Warren Webster & Co.
Austin Adams.
Geo. A. Barnard.
- Curtis Regulator Co.**
Stillwell & Bierce Mfg. Co.
- Mason Regulator Co.**
Hoppes Mfg. Co.
Boiler Compound.
Litofuge Mfg. Co.
- Boiler Makers' Supplies.**
New Doty Mfg. Co.
Boiler Setting.
Jarvis Engineering Co.
Bolts, Rivets and Nuts.
Hoopes & Townsend.
Bricks.
Washington Hydraulic Press Brick Co.
- Brick & Clay Work- ing Machinery & Supplies.**
Anderson Foundry & Machine Works.
E. M. Freese & Co.
Stevenson & Co.
Straub Machinery Co.
J. W. Fenfield & Son.
W. J. C. Arnold.
Prey-Sheckler Co.
Chambers Bros. Co.
Fletcher & Thomas.
C. W. Raymond & Co.
Alex. K. Rarig & Co.
P. L. Sword & Son.
St. Louis Iron & Mach. Works.
- Bridges.**
Pittsburgh Bridge Co.
Potomac Bridge Works.
- Bruches.**
Jno. L. Whiting & Son.
- Business Oppor- tunities.**
Eufaula F. & V. Wks.
C. S. Phillips, Prest.
R. C. Kinkead.
J. H. Slater.
J. D. Ozier.
W. G. Despartes, Prest.
The Dispatch.
L. Knapp.
W. H. Reynolds.
Stevens Bros. & Co.
G. S. Turner.
Chas. G. Eddy.
- Canning Mehry.**
Cleveland Gas Mach. Co.
Niaga Steam'g & Tl Co.
Warfield Mfg. Co.
- Card Clothing.**
(See Textile Machinery and Supplies.)
- Cars.**
(See R. R. Equipment and Supplies.)
- Castings.**
A. Whitney & Sons.
Knockly Ice Car Whl. Co.
Chester Steel Cast'g Co.
Car Wheels.
Knockly Ice Car Whl. Co.
A. Whitney & Sons.
Russell Whl. & Found Co.
Car Works Equip- ment.
- Geo. Place.**
Saml. Woodhouse.
Chemist.
Otten & Westenhoff.
Rattle & Nye.
J. H. Pratt.
Stein & Schwarz.
Clutches (Frict'n).
The Moore & White Co.
- Construction Companies.**
South'n Ry. Cons. Co.
Miller & Bierce.
Simpkin & Hillyer.
- Contractors' Sup- plies.**
Contr'ts' Plant Mfg. Co.
Kilbourn & Jacobs Mfg. Co.
- F. C. Austin Mfg. Co.**
Ryan-McDonald Mfg. Co.
Stuebner & Woods.
- Contracting and Consulting En- gineers and Machinists.**
Fava, Naef & Co.
American Pipe Mfg. Co.
Jno. MacLeod.
D. D. Rogers.
The Jeffery Mfg. Co.
Julian Kennedy.
B. J. Dashiell, Jr.
Boughen Engineer'g Co.
L. N. Cox.
Stein & Schwarz.
Wright & Wood.
Nier, Hart'g & Mitchell.
Porter Mfg. Co., Lim.
Miller & Bierce.
Simpkin & Hillyer.
Jas. P. Witherow.
E. J. Wood.
- Conveyors.**
Webster Mfg. Co.
Walker & Elliott.
Moore Mfg. & Fdy. Co.
F. H. C. Mey.
W. J. Clark & Co.
H. W. Caldwell & Son.
McLanahan & Stone.
The Jeffery Mfg. Co.
Link Belt Engineer'g Co.
Corrugated Iron.
Canton Steel Roof'g Co.
Cincinnati Corrug. Co.
Globe Iron Roofing & Corrugating Co.
Holton Iron Roof'g Co.
Kanneberg Roofing Co.
Cambridge Roofing Co.
Wheeling Corru'g Co.
Cot'n Compresses.
Campbell Cot. Com. Co.
Miller & Bierce.
St. Louis Iron & Mach. Works.
- Cotton Gins.**
Talbot & Sons.
Van Winkle Gin & Mach. Co.
Cotton Seed Oil Machinery.
Chickasaw Iron Works.
H. W. Hubbard.
G. H. Bushnell Co.
Van Winkle Gin & Mach. Co.
Talbot & Sons.
W. P. Callahan & Co.
- Cranes.**
Vulcan Iron Wks. Co.
Detroit Fdy. Equip. Co.
Walker Mfg. Co.
- Crushers (Corn and Cob.)**
Union Foundry & Machine Works.
Waldron & Sprout.
Foos Mfg. Co.
- Crushers & Break- ers (Ore, Rock, &c.).**
Frisbee-Lucop Mill Co.
Stedman's Foundry & Machine Works.
Walker & Elliott.
Totten & Hogg I. & S. Fdy. Co.
Raymond & Bros. Im- pact Pulverizer Co.
Lloyd-Booth Co.
Gates Iron Works.
Valk & Murdoch Iron Works.
F. H. Moore.
- James Murray & Son.**
Dairy Supplies.
John S. Carter.
R. M. Johnson.
Powell & Lockwood.
H. McK. Wilson & Co.
- Derricks.**
Contract Plant Mfg. Co.
Simmerly Derrick Co.
- Dredges & Steam Shovels.**
Copeland & Bacon.
Bucyrus Steam Shovel & Dredge Co.
F. C. Austin Mfg. Co.
Southern Equipment Co.
Vulcan Iron Works.
Vulcan Iron Works Co.
Drills (Prospect'g).
Diamond Prospect'g Co.
M. C. Bunck Mfg. Co.
Drills (Rock).
M. C. Bullock Mfg. Co.
Rand Drill Co.
Diamond Prospect'g Co.
Ingersoll-Sergeant Rock Drill Co.
Drills (Wood and Metal).
W. F. & Jno. Barnes Co.
Cleveland Twist Drill Co.
Lodge & Davis Machine Tool Co.
Bickford Drill Co.
Huyett & Smith Mfg. Co.
- Dry Kilns.**
A. H. Andrews.
Standard Dry Kiln Co.
B. F. Sturtevant.
Electric Lighting L. N. Cox.
Belknap Motor Co.
Card Electric Motor & Dynamo Co.
Brush Electric Co.
Thomson-Houston Electric Co.
Schuyler Electric Co.
Hickler Elec. Light Co.
Electric Railway and Motors.
Baxter Elec. Motor Co.
L. N. Cox.
Thomson-Houston Electric Co.
N. Y. Ry. Sup. Co., Lim.
A. W. Ladd.
Brush Electric Light Co.
- Electrical Sup- plies.**
Baxter Elec. Motor Co.
Harry Myers Mfg. Co.
Elevators.
Salem Fdy. & Mch. Shop.
James Bates.
Jeffrey Mfg. Co.
Morse, Williams & Co.
Emery Wheels.
(See Grinding and Pol- ishing Machinery.)
- Engines.**
(See also Machinery.)
Thos. P. Conard.
Rice & Whitacre Mfg. Co.
Southern Machy. Co.
F. M. Arthur & Co.
Racine Hard Mfg. Co.
Lefel Water Wheel & Engine Co.
C. H. Dutton & Co.
Bryant Safe, Eng. Wks.
Wm. Tod & Co.
Armstrong Bros.
Estate of Geo. M. Cruickshank.
Chattanooga Saw Wks.
Russell & Co.
Lawrence Machine Co.
Chickasaw Iron Works.
Skinner Engine Co.
Cleveland & Hardwick.
Talbot & Sons.
St. Louis Iron & Mach. Works.
Porter Mfg. Co., Lim.
Chandler & Taylor.
Oil Well Sup. Co., Lim.
Frick Co.
A. L. Ide & Son.
Hewes & Phillips Iron Works.
Valk & Murdoch I. Wks.
W. A. Harris St. En. Co.
Geo. W. Tift, Sons & Co.
The J. T. Noye Mfg. Co.
Rochester Mch. Tool Wks.
- B. W. Payne & Sons.**
Gordon, Strobel & Lau- reau.
Taylor Mfg. Co.
Valley Iron Works.
Webster, Camp & Lane Machine Co.
E. J. Wood.
- Engines (Gas.)**
Charter Gas Engine Co.
Otto Gas Engine Wks.
Van Duzen Gas & Gas- line Engine Co.
Engines (Kero- sene).
Bryant Safe, Eng. Wks.
Rochester Machine Tool Works.
- Engravers.**
Southern Engraving Co.
Ryder & Dearth.
Feed Wat'r Heater Wm. Baragwanath & Son.
- Hoppes Mfg. Co.**
Fencing.
F. M. Arthur & Co.
Belmont Iron Wks., Ltd.
Manly Mfg. Co.
Dufur & Co.
Fred J. Meyers Mfg. Co.
Ludlow Saylor Wire Co.
Fortifier Mehry.
Walker & Elliott.
C. H. Dempwolf & Co.
Valk & Murdoch I. Wks.
Rawson & Morrison.
W. D. Dunning.
- Files.**
Industry File Works.
Covel Mfg. Co.
Nicholson File Co.
Reynolds Bros.
Western File Co.
- Fire Department Supplies and Ex- tinguishers.**
Black Cloud Chem. Fire Extinguisher Co.
Collins Supply Agency.
Christie & LeCount.
- Flour & Grist Mill Machinery and Supplies.**
J. B. Allfree Co.
Cochrane Rol'r Mills Co.
Nordvke & Marmon Co.
Case Mfg. Co.
Talbot & Sons.
Richmond City Mill Works.
- H. W. Caldwell & Son.**
Rome Foun. & Mch. Co.
Waldron & Sprout.
Geo. J. Fritz.
- Flue Cleaners.**
Cleveland Flue Cleaner Mfg. Co.
- Frontier Mfg. Co.**
Food-Power Ma- chinery.
W. F. & Jno. Barnes Co.
H. L. Shepard.
Sebastian-Mav Co.
- Forge Pumps.**
F. E. Myers & Bro.
- Forges.**
Buffalo Forge Co.
B. F. Sturtevant.
Miner & Peck Mfg. Co.
Bradley & Co.
Empire Port. Forge Co.
- Foundry Mehry.**
Detroit Fdy. Equip. Co.
Victor Colliau.
Byram & Co.
Allentown F. & Mch. Co.
Knockly Ice Car Whl. Co.
Jas. P. Witherow.
- Furnace Builders.**
Gordon, Strobel & Lau- reau.
Totten & Hogg I. & S. Foundry Co.
A. K. Rarig & Co.
Jas. P. Witherow.
Stein & Schwarz.
- Furnace for Boilers.**
Jarvis Engineering Co.
Furnace Supplies.
Byram & Co.
Lowe & Tucker.
- Gas Machines and Appliances.**
Cleveland Gas Mch. Co.
Harris, Boiler & Mfg. Co.
Detroit Heat'g & Light- ing Co.
American Gas Sav'g Co.
Penna. Globe Gas Light Co.
- Gauge Glass.**
Pancoast & Maule.
- Gauges (Steam and Hydraulic).**
Paul F. Hoppe.
- Grinding and Pol- ishing Mehry.**
Springfield Em' Wheel Mfg. Co.
Waltham Emery Wl. Co.
Northampton Emery Wheel Co.
Norton Emery Wheel Co.
Guns & Supplies.
A. G. Alford S. & G. Co.
Hammers, (Steam and Power).
Long & Allattat Co.
Belden Machine Co.
Bradley & Co.
Knockly Ice Car Whl. Co.
Handle Mehry.
(See Wood-working Ma- chinery.)
- Hardware Spe- cialties.**
American Screw Co.
Hy. Seymour Cut'y Co.
Belden Mch. Co.
American Mach. Co.
- Moore Mfg. & Fdy. Co.**
Empire Port. Forge Co.
Fred J. Meyers Mfg. Co.
Van Wagoner & Wil- liams Co.
Cronk Hanger Co.
Wier & Wilson.
Covert Mfg. Co.
- Hay Tools.**
F. E. Myers & Bro.
- Heating Appa- ratus.**
New York Central Iron Works Co.
Harris, Boiler & Mfg. Co.
Pierce, Butler & Pierce Mfg. Co.
Detroit Heat'g & Light- ing Co.
D. F. Morgan Boiler Co.
B. F. Sturtevant.
- Holisting Ma- chinery.**
Thos. P. Conard.
Rawson & Morrison.
Rice & Whitacre Mfg. Co.
Jno. F. Byers.
Moore Mfg. & Fdy. Co.
M. C. Bullock Mfg. Co.
Contractors' Plt. Mfg. Co.
Copeland & Bacon.
Ed. Kendall & Sons.
Diamond Prospect. Co.
Knockly Ice Car Whl. Co.
Vulcan Iron Works Co.
Ryan-McDonald Mfg. Co.
Webster, Camp & Lane Machine Co.
- Chain Hoist.**
E. Harrington, Son & Co.
- Rope Hoist.**
Fulton Iron & En. Wks.
Palmer, Cunningham & Co., Limited.
- Hose.**
Christie & LeCount.
Waterbury Rubber Co.
- Hydrants.**
Ludlow Valve Mfg. Co.
- Hydraulic Ma- chinery.**
Watson & Stillman.
Rawson & Morrison.
Wm. Tod & Co.
Boomer & Boschert.
- Ice-Making Ma- chinery.**
Atlanta Machine Wks.
Castle Engine Works.
Hercules Iron Works.
Richmond Ice Mch. Co.
Fred W. Wolf Co.
Sulzer-Vogt Mch. Co.
Frick Co.
Arctic Ice Mch. Mfg. Co.
Injectors.
Forest City Brass Wks.
Sherwood Mfg. Co.
- Insurance.**
Employers' Liab'y As- surance Corp'n, Lim.
Hartford St. Boiler Insp and Insurance Co.
- Iron Working Machinery.**
Cincinnati Mill'g Mach. Co.
Sebastian-May Co.
Southern Machy. Co.
Giant Key Seater Co.
G. D. Colton & Co.
Stow Flex. Shaft Co. Lim.
E. Harrington Son & Co.
Lodge & Davis Machine Tool Co.
Lathie & Morse Tool Co.
- Jacks.**
Joyce, Cridland & Co.
Riehle Bros.
- Jacks (Hydraulic).**
Watson & Stillman.
- Knitting Ma- chinery.**
Nye & Treddick.
- Laundry Ma- chinery.**
Geo. J. Fritz.
Troy Laundry Machinery Co., Limited.
The A. M. Dolph Co.
- Lights (Factory and Outdoor).**
Schneider & Trenkamp Mfg. Co.
Keegan & Halpin.
Industrial Light Co.
Penn. Globe Gas Lt. Co.
- Locomotives.**
(See also R. R. Equip'm't and Supplies.)
Chickasaw Iron Works.
Richmond Loc. & Mch. Wks.
H. K. Porter & Co.
Baldwin Loco. Works.
Lucubants.
Olney Bros.
Wm. C. Robinson & Son.
- Lumber.**
E. B. Hunting & Co.
Johnson, Shryock & Co.
Thos. J. Shryock & Co.
- Machinery.**
Allentown F. & Mch. Co.
W. D. Dunning.
Wm. Tod & Co.
H. H. Bushnell Co.
Box 110, Cleveland, O.
Miner & Peck Mfg. Co.
Nicholson & Waterman Mfg. Co.
Lawrence Machine Co.
Christians Mch. Co.
Thaddeus S. Cobb & Co.
St. Louis Iron & Mach. Works.
Webster Mfg. Co.
Southern Equip'm't Co.
M. C. Bullock Mfg. Co.
Knockly Ice Car Whl. Co.
Rome Fdy. & Mch. Wks.
- S. C. Forsaith Mch. Co.**
R. M. Johnson.
Warfield Mfg. Co.
F. A. Estep.
Stow Flexible Shaft Co., Limited.
Morris Machine Wks.
Richmond Loc. & Mch. Wks.
Alex. K. Rarig & Co.
Lowell Stm. Boiler Wks.
S. Morgan Smith.
McLanahan & Stone.
Vulcan Iron Works Co.
- Machinery & Tools (Second Hand).**
J. A. Mackinnon My. Co.
Jas. Jenks.
N. V. Machinery Depot.
Geo. M. Clapp.
Thos. P. Conard.
Prentiss Tool & Sup. Co.
L. F. Seyfert.
S. C. Forsaith Mch. Co.
Lowell Stm. Boiler Wks.
Metc. W. H. els.
Howell Wheel Co.
- Mill Engineers.**
Gray & Fitch.
Raeder, Coffin & Crocker.
Lockwood, Greene & Co.
Drew, Baldwin & Co.
- Mill Supplies.**
Southern Machy. Co.
Covel Mfg. Co.
Talbot & Sons.
Christie & LeCount.
Waters & Garland.
Milner & Kettig.
James Smith & Co.
- Mining, Quarry- ing & Stone-Cut- ting Mehry.**
Steam Stone Cutter Co.
Rand Drill Co.
Allentown F. & Mch. Co.
Atlanta Machine Wks.
Ingersoll-Sergeant Rock Drill Co.
Gates Iron Works.
Diamond Prospect'g Co.
St. Louis Iron & Mach. Works.
- M. C. Bullock Mfg. Co.**
Copeland & Bacon.
Jeffrey Mfg. Co.
Webster, Camp & Lane Machine Co.
Lincoln Iron Works.
- Miscellaneous.**
Office Spec. Mfg. Co.
W. H. Morehouse & Co.
Child Acme Press & Cutter Co.
Corporation Book Co.
Jno. G. Mengel & Co.
Smith Prem't Type Co.
Glasen Mfg. Co.
R. M. Whitney.
J. H. Day & Co.
Johnson & Field.
Chamberlin Mfg. Co.
Jory & Co.
S. E. Crawford.
Cleveland Axle Mfg. Co.
Piedmont Mather & Co.
Terry Mfg. Co.
American Pig Iron Stor- age Warrant Co.
Eastman & Co.
Ryder & Dearth.
C. A. Gambrell Mfg. Co.
The Bradstreet Co.
Ault & Wiborg.
Record Printing House.
Stillman, (Cleveland.)
- Office Furniture.**
Racine Hard. Mfg. Co.
Derby & Kilmer Dk. Co.
Terry Mfg. Co.
- Oil Cups.**
Wm. Powell Co.
Lunkenhimer Brass Mfg. Co.
- Oils.**
Sherwood Mfg. Co.
- Olney Bros.**
Wm. C. Robinson & Son.
- Oil Burners.**
Stickney Oil Burner Co.
- Ore Washers.**
Jenkins & Lingle.
McLanahan & Stone.
- Packing.**
Garlock Packing Co.
James Smith & Co.
Piedmont Mather & Co.
Page Belting Co.
Jenkins Bros.
- Paint.**
A. F. Bouton & Co.
H. W. Johns Mfg. Co.
Long Steel & Iron Roof- ing Co.
N. T. Paite & Co.
Iron Clad Paint Co.
Nubian Iron Enamel Co.
Jos. Dixon Crucible Co.
Chattanooga Paint Co.
- Paper and Pulp Mill Machinery.**
The Moore & White Co.
F. H. Davis & Co.
Davton Globe Iron Works Co.
- Perforated Metal.**
Harrington & King Per- forating Co.
- Phosphor Bronze.**
Phosph. Bron. Smelt. Co.
- Pig Iron.**
Lowe & Tucker.
Pickands, Mather & Co.
- Pile Drivers.**
Vulcan Iron Works.
- Pipe (Cast Iron and Steel).**
American Pipe Mfg. Co.
Annisson Pipe Works.
The Glamorgan Co.
Jackson & Woodin Mfg. Co.
- Wells Restless Iron Co.**
Spiral Weld Tube Co.
Chattanooga Foundry and Pipe Works.
- Pipe Bend'g Wks.**
Farrell & Rempe.
Jas. D. Cardell & Co.
- Pipe Covering.**
Shields & Brown Co.
- Pipe Fittings.**
Graham, Bailey & Co.
Wells Machine Works.
Pancoast & Maule.
- Pipe Handling Tools.**
D. Saunders' Sons.
I. B. Potts Pipe Fitt. Co.
Pancoast & Maule.
- Plumbers' Sup- plies & Tools.**
I. B. Potts Pipe Fitt. Co.
Graham, Bailey & Co.
Schneider & Trenkamp Mfg. Co.
Stickney Oil Burner Co.
Milner & Kettig.
Haines, Jones & Cad- bury Co.
- Pancoast & Maule.**
D. Saunders' Sons.
Presses (Power).
Lockwood Mfg. Co.
Miner & Peck Mfg. Co.
Boomer & Boschert Press Co.
- Pulleys, shafting and Hangers.**
P. Prybil.
Walker & Elliott.
Davton Globe Iron Works Co.
- Atlanta Machine Wks.**
Todd Pul. & Shaft Wks.
Webster Mfg. Co.
Van Winkle Gin & Mach. Co.
Fitzsimons & Co.
Ohio Pulley & Mach. Co.
Menasha Wood Split Pulley Co.
Warfield Mfg. Co.
Taper-Sleeve Pul. Wks.
James Smith & Co.
Webster, Camp & Lane Machine Co.
E. J. Wood.
- Pumps (Hand and Power).**
Gould Mfg. Co.
Deming & Co.
Van Winkle Gin & Mach. Co.
- Pumps (Steam.)**
Thos. P. Conard.
Canton Steam Pump Co.
Eclipse Pump Mfg. Co.
Lawrence Machine Co.
Barr Pump'g Engine Co.
Southern Machy. Co.
Van Duzen & Tift.
Cook Well Co.
Deane S. P. Co.
Goulds Mfg. Co.
John Maslin & Son.
Hy. R. Worthington.
Hughes Steam Pump Co.
Pulsometer Stm. P. Co.
Valley Pump Co.
Dean Bros. Stm. P. Wks.
Blakeslee Mfg. Co.
Ladd & Dunn Co.
Geo. F. Blake Mfg. Co.
Irvin Van Wie.
The A. S. Cameron Stm. Pump Works.
Jno. H. McGowan & Co.
The Smith & Valle Co.
Buffalo Stm. Pump Co.
Boggs & Clarke.
- Punching and Shearing Mehry.**
New Doty Mfg. Co.
G. D. Colton & Co.
Long & Allattat Co.
- Railroads.**
Cleveland & Canton R. R. Co.
Pittsburgh & L. E. R. R. Co.
C. M. & St. P. R. R.
Piedmont Air Line.
Old Kentucky Route.
Shenandoah Vall'y R.R.
Western Md. R. R.
Cin. Ham. & Dayton Rd.
E. Ten. Vir. & Georgia.
Wheeling & L. Erie Ry.
Valley Railway.
- Railroad Equip'm't and Supplies.**
(New & Second Hand).
Corey Car & Mfg. Co.
Jackson & Woodin Mfg. Co.
Southern Machy. Co.
N. Y. Ry. Sup. Co., Lim.
Benj. Watson.
Robinson & Orr.
Humphreys & Sayce.
N. Y. Equip'm't Co.
Carlisle Mfg. Co.
Richmond Loc. & Mch. Wks.
H. K. Porter & Co.
Penna. Steel Co.
Baldwin Locomo. Wks.
Wm. Miningerode.
Alfred W. Ladd.
F. A. Estep.
Lowe & Tucker.
Russell Whl' & Fdy. Co.
Reginald Canning & Co.
A. S. Males & Co.
- Real Estate.**
(See also Towns).
Wm. Pendleton Gaines.
Jno. A. Williams.
W. H. Howcott.
Jno. C. Field.
Southern Investment Co.
R. K. Wright, Jr.
Edmonds & Robinson.
- Road Machinery.**
F. C. Austin Mfg. Co.
- Roll'g Mill Mehry.**
Lloyd-Booth Co.
Totten & Hogg I. & S. Fdy. Co.
- Roofing.**
H. W. Johns Mfg. Co.
Long Steel & Iron Roof- ing Co.
H. F. Watson.
Sims & Millard.
N. T. Paite & Co.
Globe Iron Rfg. & C. Co.
Chicla, Corrugating Co.
Ehret-Warren Mfg. Co.
Heberling Metal Roof- ing Co.
Empire Paint & Bldg. Co.
Canton Steel Roof'g Co.
W. J. Burton & Co.
Corr'ght Met. Roof'g Co.
Kanneberg Roofing Co.
Holton Iron Roofing Co.
Cambridge Roofing Co.
The Berger Mfg. Co.
Lowe & Tucker.
Wheeling Corru'g Co.
- Rubber Goods.**
Waterbury Rubber Co.
- Rustless Iron.**
Wells Rustless Iron Co.
Sawes.
(See also Wood-working Machinery.)
- Wheeler, Madden & Clemens Mfg. Co.**
W. F. & John Barnes Co.
Canton Saw Co.
Chattanooga Saw Wks.
Peter Gerlach & Co.
- Saw Mill Machinery.**
W. E. Hill & Co.
Chattanooga Saw Wks.
Manly Mfg. Co.
B. S. Abbott.
Chickasaw Iron Works.
Frick Co.
Richmond Mch. Wks.
A. C. Powell & Son.
Taylor Mfg. Co.
- Scales.**
Buffalo Scale Co.
Jones of Birmingham.
Riehle Bros.
- Screws, Taps, Ac.**
Cincinnati Screw & Tap Co.
Scroll Saws.
H. L. Resch.
H. J. & John Barnes Co.
Sheet Metal Work- ing Machinery.
Niagara Stamping and Tool Co.
Shingle and Stave Machinery.
(See Woodworking Ma- chinery.)
- W. E. Hill & Co.**
Sky Light Co.
E. Van Noorden & Co.
Soap-makers' Mehry.
Hutchens' Mehry.
H. Wm. Dapp & Son.
A. W. Hoskins.
Speed Regulators.
F. M. Foote Reg. Co.
Stand-Pipe Co.
J. C. McNeil Co.
Sharon Boiler Wks. Lim.
Porter Mfg. Co., Lim.
- Steamers.**
Bay Line Steamers.
Baito, Stor. & Light Co.
Steam & Damp- er Regulators.
Curtis Regulator Co.
Steam separator.
Geo. A. Barnard.
Curtis Regulator Co.
Steel.
- Chas. Burgess.**
Steel Roll- ing.
(See also R. R. Equip'm't and Supplies.)
- Penna. Steel Co.**
Benj. Watson.
- Testing Machines.**
Riehle Bros.
- Textile Machinery and Supplies.**
Kilburn, Lincoln & Co.
Thaddeus S. Cobb & Co.
"D. W. O."
Providence Belting Co.
C. R. English.
James Smith & Co.
Stoddard, Lovering & Nye & Treddick.
American Supply Co.
Jeremiah Clark.
Crompton Loom Wks.
Globe Machine Works.
Geo. Draper & Son.
Whitinsville Spinning Ring Co.
Geo. P. Clark.
- Textile Machinery (Second Hand).**
"D. W. O."
Thaddeus S. Cobb & Co.
L. Godfrey & Co.
- Tires.**
Standard Steel Wire Tools (Machine and Hand).
M. L. Edwards Mfg. Co.
Giant Key Seater Co.
Cincinnati Mill'g Mach. Co.
Covel Mfg. Co.
Cincinnati Screw & Tap Co.
Hart Mfg. Co.
Belden Mch. Co.
Nicholson & Waterman Mfg. Co.
- J. Stevens Arms & Tl Co.**
Stow Flex. Shaft Co.
D. E. Whiton Mch. Co.
Cleveland Tw. Drill Co.
Lathie & Morse Tool Co.
E. Harrington Son & Co.
Lodge & Davis Machine Tool Co.

(Continued on Page 77.)

CORD CLOTHING.

JAMES SMITH & CO.

Woolen Machinery.

PHILADELPHIA,

Manufacturers of

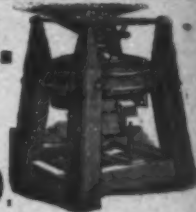
PENNSYLVANIA.

**Milling Outfits for Flour and Meal.**

WE MAKE ROLLS AND PORTABLE MILLS COMPLETE.

Manufactory Established in 1861.

Pamphlets with Prices Mailed Free.

NORDYKE & MARMON CO., INDIANAPOLIS, IND.**ELEVATORS****MORSE ELEVATOR WORKS.****MORSE, WILLIAMS & CO.**

Successors to CLEM & MORSE.

Manufacturers and Builders of HYDRAULIC STEAM, BELT and HAND-POWER PASSENGER and FREIGHT ELEVATORS

With most approved Safety Devices. Dumb-Waiters, Automatic Hatch-Doors, &c.

Office, 1105 FRANKFORT AVE.; Works, FRANKFORT AVE., WILDEY AND SHACKANAXON STREET, PHILADELPHIA, PA.

Send for Illustrated Circulars.

Branch Office, 108 Liberty St., New York.

MORTON, REED & CO., 3 & 5 German St., Agents for Baltimore.

Boston Office, 14 High St.

A GREAT TUNNEL

JUST FINISHED WITH INGERSOLL-SERGEANT MACHINERY.

THE ST. CLAIR TUNNEL COMPANY.

CHIEF ENGINEER'S OFFICE, HAMILTON, ONT., October 2, 1900.

In reply to your inquiry as to the performance of the four 20-in. x 24-in. NEW INGERSOLL-SERGEANT AIR COMPRESSORS furnished by you for the St. Clair Tunnel Co., I beg to say that it has been perfectly satisfactory. They have been thoroughly tested, as they have been continuously at work night and day, Sundays included, for nearly six months.

Yours truly, JOSEPH HOBSON, Chief Engineer.

INGERSOLL-SERGEANT ROCK DRILL CO., 10 Park Place, New York.**PROVIDENCE BELTING COMPANY,**

MANUFACTURERS OF

Leather Belts, Loom Straps, Pickers, &c.

EXCLUSIVELY SHORT-LAPPED BELTS.

ROLL COVERING FOR WORSTED MACHINERY.

SEND FOR PRICES.

37 & 39 Charles Street, PROVIDENCE, R. I.

THE STANDARD IMPROVED DRY KILN

Is the Best Lumber and Shingle Dryer in the Market.

The STANDARD "HOT BLAST" APPARATUS, for Heating and Ventilating Public Buildings, Factories, &c., is Unexcelled.

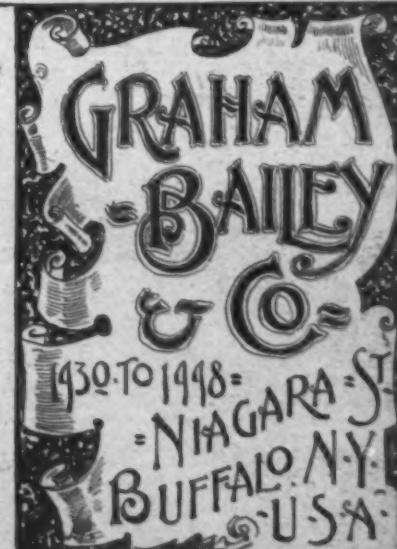
Send for catalogue containing numerous testimonials. Estimates and plans furnished on application.

The Standard Dry Kiln Co.

1224 to 1230 West Main Street,

Branch Office, 20 Vesey St., New York.

LOUISVILLE, KY.

*How we Catch on***GRAHAM BAILEY & CO.**

1930 TO 1948 = NIAGARA ST. BUFFALO, N.Y. U.S.A.

STEEL RAILS, (all weights) PIG IRON, IRON ORE, SCRAP.

ROBINSON & ORR,

Steel Rails and Fastenings.

419 Wood St., PITTSBURGH, PA.

WE BUY OLD IRON AND STEEL RAILS, (for reworking or relaying) WRITE US.

BUFFALO SCALE CO., Buffalo, N. Y. RAILROAD TRACK SCALES and all other Scales.

THE DEANE STEAM PUMP CO.

HOLYOKE, MASS.

To better accommodate their Southern trade, have opened an office at No. 6 SOUTH 20th STREET,
BIRMINGHAM, ALA.

WHERE THEY HAVE IN STOCK A FULL LINE OF

STEAM AND POWER PUMPS

CORRESPONDENCE SOLICITED.

SEND FOR NEW ILLUSTRATED CATALOGUE.

WORTHINGTON STEAM PUMPS

SOUTHERN SELLING AGENTS:

THOS. C. BASSHAW & CO., Baltimore, Md.
KENTUCKY MACHINERY CO., Louisville, Ky.
PERRY MACHINE WORKS, Nashville, Tenn.
LIVERMORE FDRY. & MACH. CO., Memphis, Tenn.
FORSBERG & MURRAY, Washington, D. C.

SEND FOR ILLUSTRATED CATALOGUE

HENRY R. WORTHINGTON
NEW YORK.

SOUTHERN SELLING AGENTS:

SMITH & COURTNEY, Richmond, Va.
MECKLENBURG IRON WORKS, Charleston, S. C.
E. V. WHITE & CO., Norfolk, Va.
M. SCHWARTZ & CO., New Orleans, La.
F. W. HEITMANN & CO., Houston, Texas.

Boston

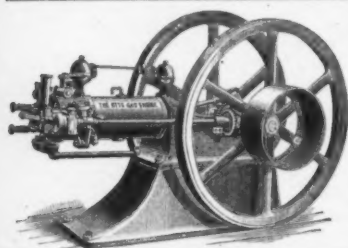
Philadelphia

Chicago

St. Louis

St. Paul

San Francisco



Over 18,000 in use. **OTTO GAS ENGINE**

20 to 70 per cent. less Gas Consumption than ANY OTHER ENGINE.

Working Without Boiler, Steam, Coal, Ashes or Attendance.

Started Instantly by a Match it gives full power immediately. When Stopped all Expense Consumed.

GUARANTEED TO CONSUME 25 TO 75 PER CENT. LESS GAS THAN ANY OTHER GAS ENGINE DOING THE SAME WORK.

No explosions, no fires nor cinders, no gauges, no pumps, no engineer or other attendant while running. Recommended by insurance companies. SURPASSED IN EVERY RESPECT for hoisting in warehouses, printing, ventilating, running small shops, &c. Sizes, 1 to 25 Horse-Power.

Branch Office, 151 Monroe St., Chicago, Ill. **OTTO GAS ENGINE WORKS, Schleicher, Schumm & Co.** 339 AND WALNUT ST. PHILADELPHIA, PA.

GEO. DRAPER & SONS, of Hopedale, Mass.

SELL THE

Highest Grade of Twistors, Warpers and Spoolers.

SOUTHERN AS WELL AS NORTHERN MILLS REQUIRE THE HIGHEST GRADE.

THEY ARE CONSTANTLY INTRODUCING IMPROVEMENTS IN ALL LINES OF COTTON MACHINERY.

FLOUR, CORN, PORTABLE AND ROLLER MILLS



COMPLETE ALL SIZES.

We guarantee Highest Product in our Custom or Merchant Mills, which we will contract to build complete—over 1,000 have been equipped by us. Our Portable Mills have been awarded Highest Prizes at Exposition Fairs. French Buhr Grist Mills, over 3,000 in use, complete with sheller, \$115. Correspondence solicited. Write for pamphlet. "Mills and Milling" sent free.

NORDYKE & MARMON CO., Indianapolis, Ind.



For SUCTION, WATER, STEAM, GAS, AIR, ACIDS and for every purpose to which a Hose can be applied.

ARMORED PAT. 1882, '85, '86, '88.

RESISTANCE to Great Pressure; Unobstructed Flow of Water; Increased Flexibility and Perfect Protection are some of its Advantages.

WE GUARANTEE every foot sold to withstand constant service for such longer period as to render its actual cost much less in the end. Every wind of the wire can be cut without loosening or uncoiling.

The making, vending or use of any SERVICEABLE ARMORED WIRE-BOUND HOSE not of our manufacture is an infringement on one or more of our patents, and any violator will meet with instant prosecution. Brass plates mark each coil and admonish infringers, warning evil-minded or ignorant.

WATERBURY RUBBER COMPANY,

Sole Manufacturers and Proprietors,

49 WARREN STREET,

NEW YORK

THE EMPLOYERS' LIABILITY ASSURANCE CORPORATION, Limited, OF LONDON, ENGLAND.



Trustees for the United States:

OLIVER W. PEABODY, Esq., KIDDER, PEABODY & Co., Boston.
CHAUNCEY M. DEFEW, Esq., Pres. N. Y. Cen. and H. R. R. Co., New York.
SAMUEL SLOAN, Esq., Pres. Del., Lacka. and West. R. R. Co., New York.
WM. A. FRENCH, Esq., Pres. Mass. National Bank.
ABRAHAM FRENCH Co., Boston.
HON. JOHN LOWELL, Boston.

Deposited in United States,

\$700,000.00.

Policies issued giving full protection to Employers against loss by Claims from Employees on account of Accident. Rates Proportioned to Risks of Occupation. One Premium the only Payment during year. No Contingent or other Liability on part of Employer.

Employers with Pay Rolls of \$100,000 already covered in United States. No Employer should be without this Protection. Cases investigated by Competent Inspectors and compensated by Eminent Counsel. If liability shown, Cases settled without litigation.

ENDICOTT & MACOMBER, Managers for the United States, 71 KILBY STREET, BOSTON.

AGENTS—SAMUEL APPLETON, 28 Central St., Boston; EDMUND DWIGHT, Jr., 51 Cedar St., N. Y.; MIDDLE DEPARTMENT, TATTNALL PAULDING, Mgr., 416 and 420 Walnut St., Philadelphia; G. W. S. HALL, 413 Second St., Baltimore, Md.; GEO. A. GILBERT, 226-228 LaSalle St., Chicago; F. D. HIRSHBERG & BRO., 120 N. Third St., St. Louis; HUFFMAN & ALLISON State Agents for Alabama and Tennessee, Birmingham, Ala.

Send for New Catalogue. **SUPERIOR WOOD-WORKING MACHINERY** to CONNELL & DENGLE, Rochester, N. Y.



Vol. X
W
Man
WAT
Pro
Richard
W
Thomas

Ch. E.

Subject
To For
BAL

TH
Rollin
tioned
ens'
tempo
brock
in har
works
are th
photo
we be
to ma
on b
Unit
gener
ton be
the F
and w
this.
sent
to \$1.
to 1,0
itude
this c
MAN
that i
ing to
town.
While
been
time
not li
by th
large
one c
in A
rapid
activ
street
and
new
and
out b

MANUFACTURERS' RECORD

A Southern Industrial, Railroad and Financial Newspaper.

Vol. XVIII. No. 23.
WEEKLY.

BALTIMORE, DECEMBER 20, 1890.

\$4.00 A YEAR.
SINGLE COPIES, 10 CENTS.

Manufacturers' Record.

PUBLISHED EVERY SATURDAY BY THE
MANUFACTURERS' RECORD CO.
President, Secretary and Treasurer,
Wm. H. Edmonds.

RICHARD H. EDMONDS, EDITOR.
WM. H. EDMONDS, BUSINESS MANAGER.

THOMAS F. GRANT, Southern Staff Correspondent.

OFFICE,
COR. EXCHANGE PLACE AND COMMERCE STREET,
BALTIMORE.

SUBSCRIPTION, - - - - \$4.00 a Year.
In Foreign Countries, - - - 6.50 a Year.

BALTIMORE, DECEMBER 20, 1890.

THE failure of the United States Rolling Stock Co., of Chicago, mentioned recently in the MANUFACTURERS' RECORD, has resulted in the temporary shutting down of the branch works at Anniston, Ala. It is hardly possible that the Anniston works will long remain idle, for they are the best equipped of all the plants owned by this company, and we believe that it is possible for them to make cars at as low a cost as they can be produced anywhere in the United States. It has long been generally understood that the Anniston branch was the most profitable of the Rolling Stock Co.'s business, and we do not doubt the truth of this. The Anniston works represent an investment of from \$750,000 to \$1,000,000, and give employment to 1,000 hands. A plant of this magnitude and as admirably located as this cannot long remain idle, and the MANUFACTURERS' RECORD hopes that it will soon be in operation, helping to increase the prosperity of that town, as well as of the whole South. While the growth of Anniston has been very rapid, it has at the same time been so substantial that it is not likely to be permanently injured by the temporary stoppage of these large works. Anniston is probably one of the most attractive new towns in America. Notwithstanding its rapid growth, the great building activity and the construction of new streets, it is free from that rawness and unattractive appearance of many new towns. It is always inviting, and few strangers ever visit it without being struck with these features.

Texas Leads Off in Preparing For the World's Fair.

A great convention of the foremost business men of Texas assembled at Houston last week. More than a thousand delegates, representing all parts of the State, presented their credentials. They met for the accomplishment of a noble purpose—the exaltation of their magnificent Commonwealth. They wasted no time in idle words, but addressed themselves immediately to the business in hand. The address of Mr. T. J. Hurley, before assuming the chair, gave the key-note to the entire proceedings. "We must have an exhibit at Chicago," said he. "Five hundred thousand dollars is not enough, nor would a million dollars be too much. You cannot sit down and dwell on your intense respectability. Let us burn our bridges of mossbackism; let us turn our faces to the rising star of progress. Now let us proceed to business and try to expedite our work."

The convention responded by adopting with enthusiastic unanimity a memorial to the Governor and legislature of the State of Texas, setting forth that the immense resources and productions of the State must be displayed in their completeness at the Columbian Exposition of 1893, and that as this could not be done by individual efforts—

Therefore, be it resolved, that the governor and legislature of the State of Texas be and they are hereby earnestly requested to make an appropriation of \$1,000,000 to be used under such restriction as the legislature may deem best in defraying the expense of collecting and showing at the said world's Columbian Exposition a creditable exhibit of the resources and productions of the whole of Texas.

Committees were appointed on finance, for an educational exhibit and for presenting the memorial to the legislature. Houston was selected as the city in which the display was to be collected and prepared for shipment, and an executive committee was appointed to supervise all preparatory work. Thus the business men of the "Lone Star State" lead off in making prepara-

tions for what is to be the grandest exposition the world has known.

One million dollars are asked, and that sum will undoubtedly be granted, nor, in the words of Chairman Hurley, "will it be too much."

The time for consideration is fast slipping away. The hour of action is at hand. Within a few days the President's invitation will be mailed to every government on earth, asking their presence and the co operation in this national celebration. The great States of the Pacific coast and of the North are already in the field. California has appropriated half a million, Washington and Oregon will probably do as much, and Wisconsin will lead the Northwest with two hundred and fifty thousand.

What of the Southern States? Will they follow the wise example of Texas and invest largely in this national display, this interstate rivalry for the admiration of the assembled world?

There must be no stint, no false economy, no penny wise and pound foolish conduct now. The magnificent natural resources and varied products of every State must be displayed in their entirety if a right impression is to be made. It is no time to plead poverty, to whine about taxes or to complain of public debts. Every Southern State that is fittingly represented at the exposition, whatever its outlay may have been, will be rewarded many hundred fold the cost of its exhibit. State pride, State interests, combine with patriotic sentiment in demanding that every State in the South should do its best on this supreme occasion, "not counting the cost."

THE announcement that a receiver had been appointed for the Charleston, Cincinnati & Chicago Railroad, and for the Massachusetts & Southern Construction Co., which was building the same, was not unexpected. The suspension of an old and wealthy Philadelphia banking-house which had been the financial agent of both companies brought to an untimely end a negotiation,

nearly completed, that would have placed in bank funds enough for the payment of all arrearages and for the vigorous prosecution of this important enterprise. The disaster was unavoidable, but it is not irretrievable. The two companies have large assets in rights of way, in valuable mineral and timber lands, in sections of completed road-bed, and in locomotives, cars, shops and depots. Moreover, large manufacturing plants already completed and others under construction, because of the expected early connection of this road with the immense coal fields of Western Virginia and the magnetic ores of the Cranberry district of North Carolina, insure a large paying business as soon as the intermediate links shall be completed. These certainties will induce capitalists to furnish whatever money may be needed for the prosecution of this enterprise to a finish. The original promoters and investors may suffer loss, which would be a grievous pity, for they undertook a grand work and carried it forward with unremitting energy until stopped by the unexpected suspension of their financial agents; but if, unfortunately, they cannot arrange to resume their work, others will begin where they left off, and will complete the road to the Ohio river. There may be some delay before this comes about, but at the worst it cannot be a great while, and in the meantime the whole financial world will have recovered from the shock caused by the failure of the Barings, and the world's business will go on with greater volume because of its temporary check.

FOLLOWING is a form of advertisement which will be inserted four times free of charge in our "Southern Investments" column:

We have on hand the following Roanoke loans for sale. Write us for full particulars—
\$6,000—6 per cent., valuation \$75,000, rental \$10,000 per annum. Loan payable \$2,000 1 year, \$2,000 2 years, and \$2,000 3 years.
\$7,500—6 per cent., 3 years, valuation \$25,000, rental \$1,200 per annum, insurance \$1,500.

JOHN SMITH INVESTMENT CO.

"Per Capita Iron Consumption."

In its issue of December 4 the Iron Age assumes the kindly office of protecting the large and intelligent body of men who form the iron trade against "some dangerous fallacies" which "have gained wide currency during the past two or three months." These "dangerous fallacies" are the forecasts concerning the pig iron production and consumption of the next decade, which were set forth in the columns of the MANUFACTURERS' RECORD on September 27 by Hon. Edward Atkinson and in a paper prepared by Hon. Abram S. Hewitt for the New York meeting of the American Institute of Mining Engineers. Upon a purely economic and statistical basis Mr. Atkinson reasoned that the increasing population of our country and the increasing per capita consumption of pig iron would make it necessary to double, or nearly double, our production of crude iron within the next decade. Arguing from his full knowledge of all the economic principles of the production and consumption of iron, and with that remarkably clear insight into all the intricate details of the iron trade which years of experience has brought to him, Mr. Hewitt arrived at conclusions practically identical with those reached quite independently by Mr. Atkinson.

The statistical reasonings of Mr. Atkinson are generally accepted as accurate and rational, and as an authority upon the economic principles of commercial and industrial progress that gentleman enjoys a reputation that is world-wide. Forty-five years ago Mr. Hewitt ventured some carefully-considered predictions regarding future iron production in this country, and the iron trade of those days was startled by the boldness of his figures. The course of events during the years that have elapsed since then has demonstrated beyond dispute that Mr. Hewitt knew what he was talking about in 1856 when he said that the world's production of pig iron would probably reach 28,000,000 tons by 1895, for that point has been passed five years in advance of the time set by Mr. Hewitt. There is no man in this country to-day more competent than Mr. Hewitt to discuss future probabilities of the iron industry. The Iron Age coolly disposes of Mr. Atkinson as being unable to "lay claim to recognition as an authority in the iron trade," and then proceeds to a labored effort to overthrow Mr. Hewitt's careful figures by a series of arguments that are not only so obscure as to render their meaning very uncertain, but also so erroneous as to indicate a surprising ignorance of certain important elements in the iron trade.

While we believe that Mr. Atkinson and Mr. Hewitt are fully able to defend their own positions without any aid from us, still we cannot, in

justice to our desire to see that the iron trade is properly "protected," permit some of the fallacious arguments of the Iron Age to pass unquestioned. Mr. Hewitt's conclusion, upon which the Iron Age bases its objections, is as follows:

The population in 1900, allowing the same rate of increase of 28 per cent. as in the last decade, will be 82,000,000. A consumption of 300 pounds per head will require 24,600,000,000 pounds of iron, equal to 12,300,000 tons of 2,000 pounds. If, in accordance with the accelerated ratio of consumption, which has trebled since 1855, the per capita demands shall rise to 400 pounds, the total tonnage required will be 16,400,000 tons of 2,000 pounds, equivalent to 14,800,000 gross tons.

After careful study of the rather incoherent editorial in the Iron Age, we conclude the writer desired to show that the production of pig iron is not the proper basis upon which to calculate per capita iron consumption, and that, as Mr. Hewitt used this basis, his deductions concerning the increase in the rate of per capita iron consumption must be erroneous. We fail to see, however, that this point is established by the arguments advanced. The Iron Age figures the consumption of iron in the calendar year 1880 as follows:

	Net tons.
Consumption of domestic pig iron.....	4,000,000
Consumption of old material.....	1,200,000
Equivalent of imports exclusive of scrap.....	1,200,000
Total.....	6,400,000

The item of old material embraces, we presume, about 750,000 tons of iron rails and about 450,000 tons of scrap.

This is equivalent to a consumption of 256 pounds per capita. Upon the basis of the production of pig iron alone the per capita allowance would be only 160 pounds. In similar manner the Iron Age gives its estimate of this consumption of iron in 1889 as follows:

	Net tons.
Consumption of domestic pig iron.....	8,516,079
Consumption of old iron rails.....	150,000
Consumption of scrap iron.....	200,000
Equivalents of imports.....	430,000
Total.....	9,295,079

Assuming that the census year ending six months later will increase this total to a round 10,000,000 tons, the Iron Age figures out a per capita consumption of about 320 pounds for the census year. By these figures the Iron Age appears to be trying to show that the consumption of old material and imports is diminishing as the production of pig iron increases, and that the rate of increase in the production of pig iron must therefore be much greater than the rate of increase in the consumption of all iron and imports. This argument we cannot accept. We believe that the consumption of old material at the present time bears nearly the same relation to the consumption of pig iron as it did ten years ago. We are at a loss to understand upon what basis the Iron Age assumes that only 200,000 tons of scrap was used last year, while the consumption of this material in 1880 was more than double this amount. That the consumption of old iron rails should have fallen to 150,000 tons last year is reasonable, but that the

amount of all old material consumed should have diminished from 1,200,000 tons in 1880 to 350,000 tons in 1889, while the output of pig iron has increased from 4,295,414 tons to 8,516,079 tons during the same period, is preposterous. We would like the Iron Age to inform us whether or not iron products do not resolve themselves into scrap as rapidly now as ten years ago, and if they do, what becomes of the scrap?

Our open-hearth steel industry, which is a large consumer of scrap, has grown from an output of 112,953 tons in 1880 to 419,488 in 1889, and would now readily take care of a large part of 200,000 tons of scrap in a year, while our productions of rolled iron has increased from 2,332,668 tons in 1880 to 2,586,385 tons in 1889. From our inquiries among iron manufacturers we estimate that probably 20 per cent. of this rolled iron was made from scrap. Our Bessemer steel industry has more than doubled its output, and in the production of 3,281,829 tons of ingots in 1889, fully 3,600,000 tons of the total of 8,516,079 tons of pig iron was consumed. But there are other industries that consume large amounts of pig and scrap iron, of which we have no accurate record. The manufacture of stoves, cast iron pipe and other foundry products yearly consumes a great amount of material which can in no way be estimated at this time; but taking all of these allied industries into consideration, our pig iron output appears too small to provide for all their demands. If, as the Iron Age figures, old material was consumed in 1880 to the extent of 30 per cent. of the pig iron consumption, we see no reason why nearly as great a ratio should not have been maintained to the present time, which would give 2,000,000 tons or more. It is our opinion that the completed census will show a consumption of scrap iron in this proportion to pig. It is not reasonable to suppose that the consumption of old material should fall from 30 per cent. of the pig iron production in 1880 to 4 per cent. in 1889. An estimate of the total consumption of iron in 1889, which we consider more accurate than the figures given by the Iron Age, would read thus:

Consumption of domestic pig iron.....	8,574,839
Consumption of old material.....	2,150,000
Equivalent of imports, exclusive of scrap.....	430,000
Total.....	11,154,839

For the present calendar year this amount would reach a round 12,500,000 tons, or but little short of 400 pounds per capita. If the Iron Age can show us any error in this line of reasoning we shall be pleased to learn of it, and to await the completion of the census for the proof of our figures.

That we can continue this rate of progress during the next decade does not admit of a doubt in our opinion. While the railway mileage may not be increased in the proportion of the past decade, still an enormous extent of new track must be built, present

lines must be double-tracked, and the existing mileage furnishes a demand for all forms of iron and steel that increases each year with the great growth in traffic. Moreover, the manifold uses of the miscellaneous forms of iron and steel, which have followed the improvement and cheapening of these products, are calling for quantities of raw material at an increasing rate that threatens the supremacy of the railroads among consumers. We believe that the production of pig iron is the true basis upon which to estimate the consumption of all iron and steel products, and we look to the future to sustain Mr. Hewitt's predictions, as the past has done.

THE article of Col. Geo. B. Cowlam on the Baring failure and its effect upon the South, which was published in the MANUFACTURERS' RECORD of November 29, has attracted universal attention in all parts of the country. Col. Cowlam was the first man in the country to strike the key-note and to outline the true effect of this great financial trouble. Since then the leading financiers of the country have expressed similar views, and the MANUFACTURERS' RECORD is in almost daily receipt of letters from prominent business men commending Col. Cowlam's paper as the ablest that has been called out by the Baring liquidation. It is only justice to say that there are few men in America of a broader grasp of affairs than Col. Cowlam. It is rare that he can be induced to write for publication, but he never does it without presenting something that commands the widest attention. Col. Cowlam and the late Hon. Wm. D. Kelley, familiarly known as "Fig Iron" Kelley, were warm friends, although Judge Kelley was old enough to be Col. Cowlam's father. The first personal acquaintance of the MANUFACTURERS' RECORD with Col. Cowlam, some years ago, was through Judge Kelley, who was so much impressed with an article written by Col. Cowlam for The Forum on the future of the South that he wrote and asked that it be republished in the MANUFACTURERS' RECORD. About that time Col. Cowlam, in replying to a letter from Judge Kelley, devoted one page of letter-paper to a few strong statements about the tariff. Judge Kelley, who had been the recognized head of the protective tariff work in this country for thirty years or more, was so struck with this letter, which he also asked the MANUFACTURERS' RECORD to publish, that he said: "I would rather have been the author of that brief letter on the tariff than of all that I have ever written or spoken on the subject." Col. Cowlam has for years been closely studying the South and its resources, and we do not believe that there is a man in America who more thoroughly understands the unlimited resources of this section or more fully grasps the great possibilities of the future. It was Judge Kelley's enthusiasm on this subject that first brought him into such close and intimate friendship with Col. Cowlam.

Free Advertising for Southern Investments.

Until further notice, corporations, bankers, brokers and others having for sale real estate loans and municipal and county bonds, may announce their offerings to the investing public through the MANUFACTURERS' RECORD free of charge.

The motive for establishing this new feature lies in our desire to aid in securing for the South a share of the large volume of money that is now flowing to the West and North-west for investment in municipal and county bonds and real estate loans.

These sections have long enjoyed the favor of certain classes of investors in the East. The South has been content to receive only such outside capital as found its way directly into industrial development. This was small in comparison with the vast sums that sought investment in Western securities. When the people who had furnished the West the money for its development grew lukewarm and began to look about for something more satisfactory, the Western brokers instituted a campaign of advertising to win them back to their first love. They utilize every good medium through which to reach capital. Everywhere you can find the advertisements of Northwestern towns calling attention to opportunities for profitable investments in real estate or local securities. Thousands of people of moderate means as well as large capitalists scattered all over the country, seeing these offers day after day, send out their money for investment at from 6 to 8 per cent. In this way millions of dollars are drawn from the East for investments that are not so safe as Southern investments at far lower rates of interest than money commands in all the growing towns of the South.

Now is the time for the South to divert to its own investments a share of this Westward flow of capital.

The West has demonstrated its inability to carry the debt which Eastern capitalists have made it so easy to assume. Generally speaking, the West is already overloaded with debt. In many States borrowers cannot pay interest, to say nothing about principal. Foreclosures are as thick as leaves in Valambrosa. The Eastern money-lenders have been pretty hard hit, but as the West was the only section which had the machinery for placing the loans, and as a great surplus was being constantly accumulated, money

is still going the same old way, though under protest.

The West lacks the basis to justify the further absorption of surplus Eastern money, but it has the precedent and the machinery. The South has the basis, but lacks the machinery. The West fills the advertising mediums with investment offerings. The South depends almost entirely upon local capital. It does not seek outside help. And yet no section was ever in a more favorable situation to profit by borrowing heavily and to give the lender absolute security and good rates of interest. A plentiful supply of money is the one thing needful for the South's rapid advancement. It has all other conditions requisite for such development as will enable it to support a population as dense as that of Pennsylvania and Massachusetts. That part of the West which figures most largely as a borrower is a purely agricultural region, and yet 19,000,000 acres of cotton in the South produce almost as much value as 75,000,000 acres of corn in the whole country. The South is *par excellence* the agricultural region of America. But it has, besides, all other resources found in this or any other country.

Alive to all the needs of the South, the MANUFACTURERS' RECORD has long looked forward to the time when the mania for sending money West should subside and a part of the great surplus should seek the safer investments in the South. Money is slow to change its channels, and it is not to be expected that its diversion can be brought about hurriedly, but the time is coming when the South will be a vastly more favored field than the West was in its palmy days. In order to facilitate this much needed financial intercourse between the South and East the MANUFACTURERS' RECORD offers its columns gratis for the advertisement of certain securities, believing that we can thus be the means of putting lenders and borrowers in communication and turning Southward a very large volume of money. The MANUFACTURERS' RECORD has attained a large circulation in banking and financial circles, both in this country and Great Britain. These readers, we are satisfied, will welcome the announcements of Southern corporations, bankers and brokers who have good securities to sell as one of the best features of the paper.

In order to be available for free publication, announcements must not occupy more than an inch of space, and must state specifically the character of the investment—that is, the amount, the rate of interest and the security. Loans on real estate, improved and unimproved, and municipal and county bonds will be advertised free of charge, each announcement running through four issues.

Development of Southern Ores

"The consumption of iron," said Hon. Abram S. Hewitt in an address delivered in 1856, "is a social barometer by which to estimate the relative height of civilization among nations." Judged by this standard the United States takes the lead of the procession, for the rate of consumption, as shown by Mr. Edward Atkinson in his remarkable paper upon "the future situs of the principal iron production of the world," is 300 pounds per capita in this country, 175 pounds in Great Britain, France, Germany and Belgium, and 11 pounds for the rest of the world. It was not always so. On the contrary, in 1870 the consumption in Great Britain was the same as now, while in the United States it was but 150 pounds per capita. Ten years later it approximated 200 pounds, and in the last decade it gained another 100 pounds, or, in other words, in 20 years the rate of consumption per capita was doubled.

The production of pig iron in this country advanced from 2,577,361 net tons in 1878 to 8,516,079 tons in 1889, an increase in 11 years of 5,938,718 tons.

The phenomenal development of the manufacture of pig iron in this country during the last 20 years, but especially during the last decade, is also exhibited in the tables prepared by Dr. William M. Sweet for the Eleventh Census. These show the totals in net tons of pig iron produced as follows:

Year ending May 31, 1870.....	2,042,821
" " " 31, 1880.....	3,781,021
" " " June 30, 1890.....	9,579,779

The enormous output of the year ending June 30, 1890, was the production of 562 furnaces, of which but 338 were then in blast. Of these 110 used anthracite coal or anthracite coal and coke, 165 were coke and bituminous coal furnaces, and 63 used charcoal. At the same date 39 furnaces were under construction, of which 9 were in Virginia, 7 in Alabama, 5 in Pennsylvania, 4 in Illinois, 3 each in Kentucky, Tennessee and Michigan, 2 in Maryland, and 1 each in Georgia, Ohio and Wisconsin. Of the completed furnaces enumerated, some of the oldest have since been dismantled; some then out of blast have since "blown in," and several of those under construction have been completed and are now in operation, while most of the others will be finished before next midsummer.

Since June 30th the current pig iron production has been at the rate of about 10,000,000 net tons a year, and with this continued great output there has been no accumulation of stocks. On the contrary, the demand for iron for all purposes, notwithstanding the temporary tightness of the money market, is increasing every month, and as fast as the new furnaces and those undergoing repairs go into blast there will be customers for all the iron they can make. At the present rate of production the furnaces now in blast require more than

400,000 net tons of ore every week to keep them running to their full capacity.

On the first day of last month the number of finished stacks in and out of blast, with their capacity in gross tons, as reported by the Iron Age, was as follows:

	In Blast.	Weekly Capacity.	Idle.	Weekly Capacity.
Coke.....	166	122,355	71	40,300
Anthracite.....	104	43,141	70	21,590
Charcoal.....	70	13,263	67	7,908
Totals.....	340	177,958	208	69,838

There are some large stacks standing idle at several places waiting for the completion of railroads that shall bring them ore and fuel; there are large furnaces under construction whose foundations were laid since the census enumeration, and there are others under contract or projected upon which work will soon be commenced. During the census year more than 20,000,000 net tons of iron ore were required by the furnaces. By the 30th of June next year the stacks, new and old, will be consuming ore at a rate approximating 450,000 net tons a week or 23,500,000 tons a year, and in doing this they will have but kept up with the ratio of consumption of 300 pounds per capita for our entire population.

The rapidity with which plants are being prepared for the manufacture of steel, of tin plate and of other articles of production new to this country foreshadow a great increase of the demand for iron ores, while there is no evidence of a commensurate opening up of mines to supply the immense number of tons that will be required. At present the supply barely keeps ahead of consumption. The increasing demand for ore should stimulate development and mining operations in the South, whose vast resources in iron are adequate to supply the world's furnaces for an indefinite period.

NORTH CAROLINA newspapers are suggesting that Peter M. Wilson, Esq., of Winston, should be selected to take charge of that State's exhibit at the Columbian Exposition. The thousands from all parts of the United States who met Mr. Wilson at the Atlanta, Boston or New Orleans expositions (at all of which he made a fine reputation as a courteous, agreeable and most intelligent expositor of the multitudinous natural resources of that great State), will be most happy to renew acquaintance with him at Chicago as its representative. And if fine natural gifts, extensive and accurate information, a wide acquaintance with prominent men, and an invaluable experience in such matters have their due weight with the appointing power, Mr. Wilson will unquestionably be the manager of his State's display at Chicago.

TO SOUTHERN corporations, bankers and brokers: The MANUFACTURERS' RECORD will give investment offerings four insertions free, announcements not to exceed one inch in space.

Let the Railroads Alone.

A timely warning to the legislature of North Carolina appeared one day last week in the Charlotte Chronicle. There is a possibility that that body, in obedience to the dictates of the Farmers' Alliance, may create a railroad commission and invest it with dangerous powers. Fearing action of this kind, the Chronicle wisely calls attention to "the pluck and nerve required for capital to risk the building of a railroad. It is always," says the Chronicle, "a hazardous undertaking to build a railroad, however great the success may be afterwards." This is unhappily true. There are not a dozen railroads in this country that paid any profit to their original stockholders. The majority of them were constructed for other purposes than the earning of dividends by the completed plant. In many instances the stockholders expected to lose all the money they put into the enterprise, but they also expected to get it all back again, and to realize their profits from the transportation facilities gained, the enhanced value of their real estate, the new markets made accessible for both buying and selling, the time saved and the reduced cost of transportation as compared with that of hauling long distances over dirt roads.

The condition of things in Western North Carolina in 1880 aptly illustrates the disadvantages of a section without railroads. In those great counties which extend from Pigeon river to that extreme southwestern point which is bounded by East Tennessee and North Georgia, the village and cross-road merchants carried on a barter trade with the scattered farmers. At frequent intervals they filled their great wagons with country produce and started them for railroad towns from thirty to seventy miles distant. The round trip lasted from five to eight days. One or two men and four mules were occupied in carrying the produce to market and returning with store goods. Finally capitalists risked their money to build the Marietta & North Georgia Road, and after years of hard work they finished it to Cherokee county. Another set of capitalists determined to build a continuation of the Western North Carolina Railroad southward from Asheville, and that line is finished to within a few miles of Murphy, the North Carolina terminus of the first named road. Now the most remote farmers and storekeepers in all those counties are within ten miles of a railroad station. The mineral and timber resources of that section have attracted capital to engage in their development. Numerous industries have been established that have brought in many people from other States, and that are paying out a great deal of money every week for farm products, for labor and for merchandise. The whole region has changed and is changing. Land owners who paid but 25 cents an

acre in Confederate scrip to the State for their large holdings have sold as much of their realty as they wished at a profit of many hundred per cent., and the value of all they have retained is steadily enhancing. Who have been the gainers? Not the capitalists whose money built those railroads, but the mountaineers.

The Western North Carolina Railroad was originally begun by the State because of the urgent demand of the mountain people, but the cost of construction became painfully burdensome, and the State was but too glad to get rid of its elephant at the base of the Blue Ridge, and let capitalists take the risks of construction over the mountain to Asheville, and from thence to Murphy. It will probably be a long time before the local traffic will pay even interest on the cost of building and maintaining this railroad, and none but a trunk line that could use this as a feeder for its main system would have dared to incur the tremendous cost involved in its construction.

Surely the Chronicle is within bounds in saying: "The example of our own State railroad shows that there are not always dividends attached to every railroad, however desirable the railroad may be to the development of certain portions of the State." * * * "North Carolina is not now in that finished state where railroads interlap at every county seat, and where regulation and not governmental encouragement is needed. More roads are needed, and liberal concessions will be required. So, if a railroad commission is instituted, great care should be taken in defining the duties and powers of the commission, and still greater caution should be exercised in the selection" of its members.

There is solid common sense in this advice, not for North Carolina legislators alone, but for those of other States in which similar legislation is demanded. To all we commend the Chronicle's pithy concluding advice—"Let's go slow."

Two appointments made last week by the management of the Columbian Exposition will be everywhere recognized as admirable selections. With Moses P. Handy in charge of the bureau of publication and promotion the country and the world will be kept accurately informed of every phase of progress of this great enterprise. The bureau of installation has control of the most important administrative work of an exposition. The success of any large undertaking of this character depends mainly upon the exhibitors. If they are pleased with their treatment they join together heartily in co-operation with the management in endeavors to insure success. But if their wishes are ignored friction is sure to arise that impairs the best intended measures of the exposition officials. The bureau of installation is the agency that deals with exhibitors. When

Director-General Goshorn began to organize the Centennial of 1876 he secured the services of Joseph Hirst, of Florida, for the installation bureau. In 1881 he wrote to Director-General Kimball advising him to obtain Mr. Hirst's services if possible, pronouncing them invaluable. His advice was followed, and all who had knowledge of his efficient discharge of his duties at the Atlanta Cotton Exposition felt grateful to Mr. Goshorn for his strong recommendation of Mr. Hirst. The appointment of this gentleman as secretary of the bureau of installation is a guarantee that every exhibitor will be fairly treated, and that their interests and those of the management will never be brought into collision. The management is to be congratulated upon these eminently wise appointments.

THE boundary line of two States passes through the center of Bristol, on the East Tennessee, Virginia & Georgia Railroad. On the same trunk line, some thirty or more miles west of that place, is Johnson City. The first has a railroad running to the northwest, from which great things are expected in due season. The second has a narrow-gauge railroad to the Cranberry ore-beds, and is at the junction of the first-named trunk line with the uncompleted "Three Cs" Railroad. The two cities have been friendly rivals for a number of years. The trouble in which the "Three Cs Road" is involved has aroused the sympathy of Bristol. Instead of rejoicing over the temporary set-back to Johnson City, the Bristol News, a faithful advocate of that city's interest, speaks hopefully of the future and says: "We are greatly interested in seeing all the towns and cities of Virginia and Tennessee prosper and build up, and are sorry, at all times, when circumstances seem to operate against them." It is gratifying to all friends of the South to see this commendable spirit displayed. A generous rivalry is advantageous to all participants, while the converse holds good with towns as well as individuals. General prosperity among citizens makes wealthy communities, and flourishing communities result in prosperous Commonwealths. In every State in this land of ours the ancient fable of the bundle of sticks is exemplified. Whenever towns have sought advantages for themselves to the injury of other towns, in the long run the whole State has suffered. Every day new towns are laid out in the South. Money is invested in mercantile, industrial and residence buildings, in machinery, stocks of goods and household requirements, in necessary public works and buildings. Eventually all this rush of town-building will be replaced by the steady growth of those that are most advantageously situated, and of those which contain the most sagacious and enterprising citizens. Such has been the case since development began in the

West, and the South will pass through the same experience. The duration of this epoch of rapid town-building will depend largely upon the spirit of those engaged in this good work. If a generous rivalry prevails—if all towns, while pressing their own advantages, manifest a kindly feeling towards their competitors and rejoice in their successes—then the prevalence of this spirit will continue to attract capital and enterprise to the South until all suitable town-sites are occupied and all desirable farm lands are under tillage. Unity of spirit, energy in work, generosity in rivalry, will advance Southern progress.

To Inventors and Manufacturers.

The proposed centennial celebration of the establishment of the patent system of this country was a happy thought, and wherever the news of it has reached inventors it has elicited their cordial approval.

The Washington committee of seven, composed of Col. J. W. Babson, Prof. J. E. Watkins, Prof. Otis T. Mason, Hon. John Lynch, M. M. Parker, B. H. Warner and Robert W. Fenwick, who were appointed at the public meeting held at the Arlington Hotel last month to select a local and a national committee to arrange all the preliminaries for the great convention next April, have held frequent meetings, and, as soon as those invited to act have been heard from, will make public announcement of their names.

Among the many letters of approval received by the committee is one from Thomas A. Edison, saying: "I am in hearty sympathy with the movement." Hon. C. E. Mitchell, commissioner of patents, earnestly favors the celebration, of which, at a recent meeting, he said: "I shall look forward to the coming celebration and convention in this city next April with interest and enthusiasm, for I feel confident that with proper and energetic management, the movement can be made such a complete success that it will introduce a new era in the patent system and the industrial progress of the nation. I will cheerfully lend all the aid I can to help secure for the celebration the triumph which it richly deserves."

The committee has prepared an address to the inventors and manufacturers of the United States, stating that "the completion of the first centenary of the American patent system marks an important epoch in the history of the nation," that "our patent system, which has stimulated inventions and protected the inventor and his most important ally, the manufacturer, has played no small part in a history full of the triumphs of human achievement." Both inventors and manufacturers are, therefore, invited to co-operate in making next April's celebration a fitting commemoration of the important event. Attention is also called to the importance of a national

association of inventors and manufacturers.

It is not possible for the committee, in the few months of interval, to obtain the addresses of all inventors and manufacturers, consequently every one interested in the subject will facilitate the work in hand by sending his name and postoffice address to Prof. J. E. Watkins, secretary, Washington, D. C. Any suggestions respecting the celebration will be gladly received.

Since the war many patents have been issued to Southern inventors, and many Southern manufacturing concerns are using patent machinery. A full representation of Southern inventors at the celebration would astonish the public, for it would be conclusive evidence that ingenuity, mechanical knowledge and the economics of labor saving machinery are to be found south as well as north of Mason and Dixon's line, and that many bright brains are at work to discover something new and useful, and to improve old methods and old tools. For the advancement of industrial progress in the South it is desirable that its inventors and manufacturers should take an active and conspicuous part in this centenary celebration.

Bessemer Ores in Georgia.

[Special Cor. MANUFACTURERS' RECORD.]
LAVENDER, GA., Dec. 11, 1890.

It has been thought by many that there were no Bessemer ores in this section. Having been fully convinced to the contrary, I started from Tredegar, Ala., September 1 on a prospecting tour, and after visiting the large deposits of brown ores between that city and Rome, Ga., I went into the mountains of Floyd and Chattanooga counties. Among them I made the hoped-for discovery. Within a mile of a railroad station I found fine ores, equal to those of Lake Superior. Since then these deposits have been taken up by Birmingham people, who will develop them in the near future. Experts pronounce these the best ores that have been found in the South. I am more than ever convinced that there are inexhaustible supplies of iron and manganese in the South. I have seen many deposits of brown hematite in the sides of cliffs that could be blasted and put on cars at a minimum cost for labor. Many of these deposits have not been purchased.

S. McDANIEL, M. E.

DEVELOPMENT along the line of the New River and Clinch River divisions of the Norfolk & Western Railroad continues with steadily increasing volume. The latest announcement is the formation of the Elkhorn Coal & Land Co. by Hon. Calvin S. Brice and other New York, Pennsylvania and Ohio capitalists, with an authorized capital of \$1,000,000. This company will operate in Mercer and adjoining counties of West Virginia.

LINCOLN, N. C., will petition the legislature of that State for authority to vote bonds for the purpose of making public improvements in that healthy and hospitable city.

THE Wilmington (N. C.) Star urges the importance of building neat, small dwelling-houses in towns and cities that will rent for \$10 to \$12 a month. There is a steady demand for them. Such houses, conveniently planned and neatly constructed, can, it claims, be erected at a cost low enough to make the low rental pay a good interest on the money invested.

GENERAL NOTES.

SOUTH BOSTON, VA., had December 9th a land sale under the auspices of the South Boston Improvement Co. The weather was bad, but there was a large attendance and lively bidding, the total of purchases aggregating \$30,000 and upwards.

THE tobacco growers of Kentucky held a second meeting at Louisville last week, and took active measures to prevent the warehouse business from falling into control of the trust that was recently organized. One hundred and seventy-five of the most prominent tobacco farmers of Kentucky, representing 75 counties, took part in the deliberations, the outcome of which was the organization of a warehouse company with an authorized capital of \$1,000,000, one-tenth of which was taken on the spot. This is composed entirely of members of the association, and will be managed for their benefit by officers of their selection. The first warehouse will be started in Louisville at once. It is not proposed that it shall be a source of profit as such. On the contrary, all connected with it will be paid for their services, and the charges will only cover these and current expenses of every kind. The farmers will receive the net results of sales less these costs. Gen. John S. Williams, of Montgomery, showed what could be saved by stating that the first year of business of the warehouse through which he sold his crop the charges were but \$2.30 per hoghead, but that last season, at the same warehouse, he had to pay an average of \$7 apiece for the selling of 130 hogheads. He estimated that the complete carrying out of the association's plans would save to the tobacco farmers of Kentucky in various items of charges at least a million dollars.

EASTERN parties have, it is announced, about completed the purchase of the rolling mill property of the South Tredegar Iron Co., at Chattanooga. The consummation of this deal will, it is understood, result in the reorganization of the company with a capital of \$600,000 to put the property in first-class condition and operate it to its full capacity; also the building of a large basic steel plant at the new town of Cardiff, at a probable cost of \$250,000, to furnish the raw material for the Chattanooga works.

AN organization having for its object the industrial advancement of the State of Alabama was lately formed at Tuscaloosa under the title of the Industrial & Scientific Society of Alabama. It has for its president Col. C. C. Cadle, and the vice-presidents are Major J. W. Burke, president of the Jacksonville Mining & Manufacturing Co. (which is building Tredegar, Ala.); Thomas Sedden, president of the Starr Steel & Iron Co.; M. C. Wilson, professor of chemistry in the State Normal School at Florence; C. P. Williamson, president of the Williamson Iron Co.; W. J. Robinson, of the Alabama Mineral Land Co., and Col. Horace Harding, engineer in charge of the Warrior river improvement; Prof. W. B. Phillips, of the University of Alabama, is secretary, and Prof. Henry McCalley, of the State Geological Survey, treasurer. The society will have headquarters at Tuscaloosa, but will convene quarterly at the various industrial centers of the State. The next meeting will be held at Birmingham on January 23.

THE purchase of the Kentucky Central by the Louisville & Nashville Railroad has occasioned much joy in Knoxville, because it is generally believed there that it will give that city a shorter and better line to Cincinnati. This belief is based on a 99-years contract, made some time ago between those two roads and the East Tennessee,

Virginia & Georgia, by which through trains were to be run between Cincinnati and Knoxville. That contract, which is still binding, is now in possession of the Louisville & Nashville, which, it is thought, has the will as well as the power to enforce it. The route specified in the contract was Cincinnati to Livingston, Ky., via the Kentucky Central; Livingston to Jellico via the Louisville & Nashville, and from there to Knoxville by the East Tennessee, Virginia & Georgia. The distance is 284 miles.

THE United States Court, in session at Charleston, S. C., granted an injunction, restraining all suits against the "Three C's" Railroad, and appointed Samuel Lord, of that city, temporary receiver. This action was taken at the instance of Barker Bros. & Co. and the Finance Co., both of Philadelphia, who claimed that there are \$7,000,000 of bonds and an equal amount of stock outstanding, of which they represent \$3,253,000. The effect of this order will be to prevent any action by the receiver appointed recently at Knoxville, and to give time for an equitable arrangement satisfactory to all parties.

A COMPANY composed of New York, Colorado and Chattanooga capitalists has secured 11,000 acres of mineral land between Ellijay, Ga., and Ducktown, Tenn. The tract was obtained after an investigation which, it is stated, proved the property to be very rich in minerals. The land adjoins the famous Ducktown copper mining property, and two prospective railroads are projected to run through it. The mineral deposits discovered and partly developed include gold, silver, copper, lead and manganese. There is also said to be a deposit of graphite. Among the Chattanooga interests are G. W. M. Thomas, A. J. Stoops, M. B. Ochs and John Hibeck. The early development of the property is contemplated.

THE annual meeting of the Southern Lumbermen's Association at New Orleans last week was largely attended. The Continental Guards Armory was placed at the association's disposal, and many other courtesies were extended to the members. The annual report of Secretary Trump showed that prices had been well maintained; that there had been comparatively little cutting of the rates agreed upon at the last annual meeting, and that on all the higher grades of lumber there had been a decided advance in prices.

A SERIOUS attempt is about to be made to determine whether the long-talked-of ship canal across Florida can be built. The object is to open a safe and commodious waterway between the Atlantic and the Gulf of Mexico. If that canal can be built, it will enable mariners to steer clear of the dangers attending the passage among the Florida keys, and will also lessen the distance and time as well as the risks involved. This enterprise is to be undertaken by the Florida Ocean & Gulf Ship Canal Co., provided that its practicability shall be ascertained by the corps of engineers and surveyors acting under the supervision of Robert M. Caffalls, the company's engineer.

WHEELING, W. VA., is to be credited with the inception of a railroad scheme that, if carried into execution, will materially advance the prosperity of that manufacturing city. The plan is to build a railroad in a southeasterly direction that shall traverse Ohio and Marshall counties, and entering Washington county, Pennsylvania, shall pass through it and Greene into Fayette county as far as Connellsville. This will give cheap coke to Wheeling's manufacturers, and will also bring a part of Pennsylvania into near communication with the merchants of Wheeling, which

will enable them to secure a considerable trade that now goes to Pittsburgh. A meeting of manufacturers and railroad men has been held for the furthering of this scheme. The name adopted is the Wheeling & Eastern Railroad Co. There is some talk also about constructing a branch to form a connection with the systems now being extended from the West Virginia coke and coal regions towards Pittsburgh.

FREDERICKSBURG, VA., has a double history, each of which would perpetuate its name were it to be totally destroyed. It may make a third of another kind than the first two, that will place it in the forefront of Virginia's cities. The present generation in this country thinks of it mainly as the great battlefield where thousands of Burnside's men fell before Lee's entrenchments while making their gallant but vain charges up the heights. Few know, save the residents and the "drummer" fraternity, that it is a factory town, that it has a 4,000-horse water-power, that the Rappahannock at its front is navigable for vessels of 300 tons, that it is lighted by electricity as well as gas, that iron and gold mines are worked in its immediate vicinity, that it has a climate so salubrious as to attract health-seekers, or that it has connection with the Chesapeake & Ohio system by a railroad thirty-two miles long that runs to Hanover Junction, or that it is the eastern terminus of a narrow-gauge road that connects with the Richmond & Danville system at Orange. Yet all these are facts, and they are but part of what might be written about the resources of this city and of the country immediately surrounding it. The Fredericksburg Development Co., organized a month since, has bought 6,000 acres of land encircling the city and proposes soon to inform the American public of the many attractions, picturesque and substantial, with which Fredericksburg is blessed. This company has an authorized capital of \$1,000,000.

THE exports of cotton for the month ending November 30, and for the three months ending same date, as given by S. G. Brock, chief of the Bureau of Statistics of the Treasury Department, were as follows:

Month ending	Bales.	Pounds.	Dollars.
Nov. 30, 1890.....	854,671	445,562,508	44,565,998
1889.....	960,884	479,996,068	47,555,038
3 months ending Nov. 30, 1890.....	2,213,595	1,135,804,935	112,494,750
1889.....	2,219,812	1,098,209,970	110,811,356

From the foregoing it will be seen that our export for November was less by 76,213 bales than during the same month last year, and that this decrease amounted in value to \$2,989,040. The exports for the three months were less by 6,307 bales than for the same period last year, while the value, because of higher prices, was greater by the sum of \$1,683,394.

ALEXANDRIA, VA., feels stirring in her old bones the new life of the South. A board of trade has been organized, committees have been appointed to which various duties have been assigned, an agent has been appointed to collect statistics of the industries now in operation there. The first tangible result of this waking up has been the establishment of a shoe-making industry with \$25,000 that employs 50 persons. As Alexandria is a place from which five trunk lines radiate that lead to the West and South, and as ocean craft can approach its wharves, there is no good reason why that city, which years ago was an important trade center, should retain the time-worn and poverty-stricken appearance that it has long borne, but there are, if its people bestir themselves, plenty of opportunities for it to recuperate and to take its place among the growing commercial and industrial centers of Virginia. Mr. F. A. Reed, president of the Board of Trade, has faith in the future of Alexandria, and is doing all he can to secure "the substance of things hoped for."

ROANOKE FALLS.

A Great Work Nearing Completion.

The 16,454 Horse-Power Water-Power at Weldon, N. C.

Everything Ready for a Big Movement to the South of Northern Factories and Mills—Fine Transportation Advantages and a Famous Cotton Region—Plans of the Roanoke Navigation & Water-Power Company.

[Special Cor. MANUFACTURERS' RECORD.]
WELDON, N. C., December 10, 1890.

I have every reason to believe that only a small proportion of the 65,000,000 people who inhabit these United States are aware of the fact that here in and adjacent to this ancient hamlet of Weldon, N. C., there is the most magnificent undeveloped water-power to be found to day on the American continent; or, let me put it, the greatest "unemployed" water-power, for the term "undeveloped" may be somewhat misleading, the truth being that the Roanoke Navigation & Water-Power Co. has spent more than \$100,000 in reconstructing and enlarging the nine-mile canal which the State helped to build nearly seventy-five years ago for navigation purposes. And the company is also building a splendid 2,000 bushels per diem elevator, whose motive power will afford everything requisite for the operation of a mill, an electric-light plant and a moderate-sized factory; but it is "undeveloped," in the sense of being utilized to anywhere approximating the extent of its possibilities, because its possibilities are 16,454 horse-power, and the wheel now being put in is just 375 horse-power. And this is the only wheel now contracted for, and it will not be in operation before the middle of January.

A personal investigation and thorough inspection of this wonderful water-power will be necessary to anything like a correct conception of the situation. There is too much here for proper appreciation through any other source than strict examination.

Statistical information will develop the fact that the principal water-powers of the country are thus:

	Horse power.
Minneapolis, Minn.....	25,000
Holyoke, Mass.....	12,260
Manchester, N. H.....	12,000
Lewiston, Me.....	12,000
Lowell, Mass.....	11,845
Lawrence, Mass.....	11,000
Augusta, Ga.....	10,979
Bellows Falls, Vt.....	8,000
Cohoes, N. Y.....	7,000
Rochester, N. Y.....	6,442
Roanoke Falls water-power, Weldon, North Carolina.....	16,454

There is eloquence in these figures, but still the situation must be personally inspected in order to be adequately appreciated. There is always inspiration in seeing a great thing, no matter how famous its greatness may be.

The history of this institution and its operations is interesting, if not decidedly romantic. Away back in the beginning of this century the question of internal improvements absorbed the attention of the young American nation, and an era of canal building without precedent was begun. It was in 1812 that the Roanoke Navigation Co. was chartered by the North Carolina and Virginia legislatures. Liberal franchises were granted, extraordinary powers conferred, and the States themselves subscribed very liberally to the stock of the enterprise. Halifax, a few miles below Weldon, on the Roanoke river, was the head of navigation. The purpose of the Roanoke Navigation Co. was to build canals around the great falls of the river, and so permit the passage of boats almost up as far as Danville. The old company did the work marvellously well, for not only did they succeed in bringing the produce of the rich Piedmont section down the river to Weldon, sent thence by water to Nor-

folk, but they constructed a system of locks and aqueducts whose massive masonry stands to-day a monument to the fidelity and honesty of its builders. In those days the Roanoke bottom lands were cultivated to their limit of fertility, and the wheat and tobacco crops they raised were wonderfully rich and valuable. Petersburg, Va., had been sharing in the profits of handling these enormous products, but the successful operation of the canals diverted almost the entire Piedmont output to the Roanoke river. The Roanoke Navigation Co. did a tremendous business, and although the enterprise cost \$900,000, the profits permitted an annual dividend of about 25 per cent. Petersburg saw her splendid commerce steadily decline, and finally she built to Weldon one of the first railroads constructed in the country. Norfolk's business men, always alert and ready to protect their interests, immediately built the Seaboard & Roanoke Road to Weldon, and soon after the Wilmington Road, which had been projected to Raleigh, was extended up to Weldon, and following this move the Raleigh & Gaston came right in to the center of activity.

This was along in the '30s, and with the advent of the railroads the river navigation declined. So splendid a water-power did the canal here afford, however, that a few unimportant mills were constructed along its course, and maintained until destroyed by fire not very long ago. But the South had been essentially a producer of raw materials; extensive manufactories or diversified industries, as the phrase of the hour puts it, were almost undreamed of, and the canal was allowed to fill up and fall into general decay.

In 1875 the legislature of North Carolina passed an act dissolving the old company and ordering the property placed in a receiver's hands for sale. It took several years to get the matter finally settled up, at the end of which time the perpetual charter, appurtenances and property (consisting of 165 feet right of way, the canal bed and all locks, etc.) of the old company were transferred by purchase, and the legislature ratified the sale so that the owners became the present Roanoke Navigation & Water Power Co., of which Senator Don Cameron, of Pennsylvania, is president; Mr. S. P. Arrington, secretary and treasurer, and Gen. Wm. Mahone, of Virginia, one of the principal stockholders and directors.

Since then the work of improving the water-power has been steadily carried forward. The old masonry in the locks, culverts and aqueduct was found to be in a remarkably good state of preservation, a very little repairing being necessary at any point along the almost nine miles of the canal's length. The canal bed had become well-nigh filled up with mud, however, and, it being deemed desirable to enlarge the capacity of the canal or race-course, that arduous undertaking has since then demanded the attention of the new company. This work is now almost completed, and in a short time the company will be ready to furnish sites and water-power for all the mills and factories which may desire to locate here.

Some idea of the power here obtained can be formed when it is known that "the Roanoke river, in the distance embraced between the termini of the canal, has a fall of about eighty-five feet, of which forty feet is in the upper three miles and forty-five feet in the lower five miles." The topography of the country makes it possible to locate mills at about six sites along the route, but there are enough fine sites right at Weldon to utilize every bit of the water-power at present developed. Expert civil and hydraulic engineers, such, for instance, as Byron Holley, Esq., of Rochester, N. Y., have examined and made most glowing reports on this water-power, and there are, indeed, many reasons why it should be speedily utilized to its fullest capacity. In

the first place, Weldon is situated in the best cotton region in America, fifteen counties immediately adjacent to it having an annual product of over 200,000 bales. The climate escapes the rigors of the North and also the enervating influences of the extreme Southern sections. The waters never freeze sufficiently to prevent the continuous operation of water-power mills. Two trunk lines—the Atlantic coast line and the Seaboard air line—and three feeders besides, give the finest competitive railway facilities possessed by any point in the State, it being possible to load cars here for any destination on the Continent; the river is navigable for boats drawing no more than three feet of water; the proximity of raw material, markets and transportation facilities makes it possible to gather cotton and lay the manufactured article down in New York city less than thirty-six hours after the raw material leaves the field, and the splendid, abundant water power can be furnished at a smaller rate than that charged by nearly every water-power company in the country. When it is considered that the New England manufacturer is compelled to pay heavy freight rates on the raw material and on the manufactured article as well; that he is subjected to the loss and inconvenience which a rigorous climate inflicts, and that he is only a very small trifle nearer the big markets than is this section with its 12-hour railroad run to New York, it is no wonder that the promoters of the Roanoke Navigation & Water-Power Co. are confident that soon there will be a big movement to this city of heavy Northern manufacturers, nor that all those who examine the situation are convinced that in the near future the company's property will be almost dotted over with capacious factories and magnificent mills.

ALBERT PHENIS.

Staunton Builds Surely and Solidly.

STAUNTON, VA., December 12, 1890.

Editor Manufacturers' Record:

This communication is sent to you in the epistolary sense only. I have written so much about the industrial impulse in Virginia, and oftentimes, perforce, have been so "traced" in plants and facts and figures that now and then I take a day off and simply do my writing as I would carry on a casual talk with a friend close enough to put up with infirmities of expression.

Since I last wrote to the MANUFACTURERS' RECORD money matters have taken a turn which was so sharp a turn as to throw many folks off the track: yet, forsooth, the people down South don't seem to have been seriously affected. I mean in this way—the banks have plenty of money. For example, in Staunton, the two national banks, by their statements, have on deposit some \$1,600,000, and have \$600,000 in undivided profits.

The "deuce" of the business is they won't lend their money out. The point accentuated here is that the lack of willingness to lend money hereabouts is not due to lack of money. Another point, moreover, comes to the surface, and that is this: Notwithstanding the plentiful supply of money, the refusal to let it go argues a far-seeing conservatism. Not that banks should be close enough to bring about failures or shut off good customers without cause, but because in this December time it behooves every Southern bank to house its resources until the January dividend shall have been declared, which dividend will set free many millions.

A failure of a Southern bank of importance just at this moment would mean a great set-back to the first movement forward.

The finances of the situation are well in hand, and in the case of Staunton just about as I have stated above.

To say the truth, Staunton is not bidding for lot buyers just now.

She is waiting until the spring.

Booms (so-called) have hurried by Staun-

ton, and she has stood phlegmatically biding them all God-speed as they went by. But Mr. M. Erskine Miller has not been turned one hair from his original intention, namely, that of establishing plants firmly before he invited anybody to Staunton as she will exist under the new conditions.

I am frank to say that Mr. Miller told me in a private conversation that his main object was to have things in "ship-shape" on the day of the coming of those interested in Staunton.

He has been proceeding with remarkable patience, caution and method.

He has not secured a plant which will not stand the test of scrutiny.

The four already certainly secured and soon to be in operation, namely, the building company, the roller mills, the Bodley wagon factory and the John Kroeder brass works, are facts, and without mentioning the rest in detail, a list of which may be obtained by addressing Mr. Miller, I may say that at least ten by count are among the certainties of the early future.

These plants will take their place along the Baltimore & Ohio Railroad, which will be joined to the Chesapeake & Ohio by a belt line, and by spring-time will be in working shape.

In the meanwhile, the streeting and grading of the development company's grounds goes on uninterruptedly under the hands of skillful engineers.

But it is impossible to lay the whole matter intelligently before the reader without a map, which may be obtained by writing to Wm. J. Perry, secretary of the development company.

In this connection let me mention also an illustrated pamphlet, to contain over 100 cuts, prepared by Mr. Armistead C. Gordon. Mr. Gordon is a *littérateur* of national reputation, and the pamphlet will possess a literary and historical significance commensurate with the skill of the author.

Before closing I want to say that after a six months' sojourn in these parts, and after a conscientious study of the situation, I can see more of hope in it than anything else. In fact, I believe that if a practical, intelligent man will read the *dicta* of authorities upon the trend of increase in this land, and think and see, he will become not only convinced of the money power situation in the South, but he will become, moreover, elated with his own conclusions.

I know that by considerable contact with the advance movement down here I have become so wrapped up in the rosy possibilities that my word must be taken as a matter of course *cum grano salis*. I admit this.

But the fact remains that there is truth at the bottom of the situation here, and a rock-bottom truth at that. Build upon it we will.

It is only my desire and aim to make the picture as nearly truthful as my belief will allow me. I may overdraw, but I ask those who are doubtful of my word to "come and see," as in the words of the good book the skeptic was asked to do before he embraced the eternal truths he had once doubted.

I believe that next spring will see the most wonderful expansion in industrial life that the world has ever seen, and that the greater part of that expansion will fall to the South.

Staunton will get her share. She has been a city of strength in her section for a hundred years, and there is no reason why she should not now occupy the same relative position. There is more reason that she should. What other cities are going to have she already has, and apart from this, there is a "spunky" spirit abroad in the town that, mingled with its conservatism, promises outcome.

Talmage said lately about the Southern situation: "Others see midnight; I see midnoon;" and so say I concerning Staunton.

Pardon the length of this letter, but as Robert Hall (I believe it was) said, I didn't have time to make it shorter.

W. E. CHRISTIAN.

JAY GOULD'S VIEWS.

Let the Southern States Handle the Race Problem for Themselves.

Now is the Time to Bring About the Restoration of Bimetallism.

The United States the Richest Country in the World—Anglo-Saxon Blood—The Railroads.

The MANUFACTURERS' RECORD gives herewith some extracts from an interview with Jay Gould which appeared in the New York Sun of Sunday of more than passing interest to the South. Mr. Gould never talks without saying something, and his views on the race question, silver coinage and railroad matters will carry great weight.

Mr. Gould says of the African problem: "I'll tell you what I think is an important question, and that is, letting the Southern States alone for the white man there to handle the African problem. Now, I have been a good deal in the South, and have mingled with its business and busy class considerably. I hardly ever see a respectable white man in the South who is a Republican; and I think it comes from the Republican party having been in the habit of pushing the African to the front too much and too long. It ought not to be that we have these sectional parties; there ought to be two political parties of white men in the South, and I think there would be if some of the Republican leaders did not keep this race question excited. If I were President of the United States, or a leader of the Republican party, I think I could succeed in having some of the Southern States divided. They would be much better off with two fair parties in the field, and we should be better off if we stopped playing the African against the Anglo-Saxon. The great issue on which the Republican party was founded was that of white labor, freedom in the Territories, and freedom generally; but it never was intended by those who took charge of the destinies of the Republican party a third of a century ago that the African should be the chief or only representative of that party anywhere. This is the main mistake. I have very little confidence in the great body of Africans as our political rulers. Here and there some one colored man develops qualities like the white man, but he is altogether exceptional. There are not enough of such exceptions to demonstrate that the African race is not an inferior race. It surely is inferior to our white race in the United States."

Mr. Gould was here slightly animated, and he further said: "I have been through the West India Islands at leisure; I have been off there in the Windward Islands, where once the white race controlled the negroes. Ever since emancipation, particularly in the British West India Islands, they have been running down hill. You see costly and extensive sugar machineries and mills in ruins. You see palaces once inhabited by white planters falling into decay and made into tenement houses for indolent negroes. Jamaica is especially in my eye when I recall my cruise through the West Indies. The climate is hot, and subsistence there is easily obtained, and the inferior race does not want to work. This is the case in Hayti, where it is to believe what I was told, the black race has almost degenerated into cannibalism. I am opposed to this election bill which has been considered in Congress for our Southern States. I have sometimes noticed in the Southern States where a white woman will be sitting in a car, and there were other seats to occupy than that one, that a colored man would go and sit in one-half

of that seat. Nobody, North or South, if it came to a matter of his own family, would look with indifference upon such behavior as that."

Railroads and Shipping.

"Do you anticipate that any more trunk lines will be built across the United States?"

"I think not; I think that the present railroads are not too much employed."

"How is it that such a railroad as the Illinois Central, for example, which was endowed with a splendid grant, suffers in the quotations?"

"It is a north and south line, and the trend of traffic in this country is from east to west. The majority of the railroads running from east to west tap the business of a north and south line like the Illinois Central and haul away from it."

"Have the American railroad securities marketed in Europe been returned from natural causes?"

"Our best railroad securities have not been sent to Europe at all. The wildest securities are those which have in the main gone there, and on which they could afford to pay commissions. The best American railroad securities are still held in this country almost in bulk; indeed, I do not see any advantage for Americans to be investing their money outside of the United States. I think that conservative men who know their own country regard our financial situation here as more conservative than that of Europe, and the line of our investments superior to foreign opportunities."

"Is it not advisable for us to find markets abroad for some of our manufactures?"

"Probably so; I think respectable but not excessive subsidies ought to be extended by the government to steamship lines, and that those steamships should be especially built with reference to their utility for war purposes. That should be the government's first exaction in building them. If we expect to pick up foreign trade we must provide the medium to do it with."

Restoration of Bimetallism.

"I think," continued Mr. Gould, "the national banks have served a very good purpose. It is very hard in the best condition of things for an active country like ours to have no backsets, and we have been running along since about 1877 quite prosperously, counting out the little flutter about 1884. The trouble with our national banking system now is that we have been discharging so much of the debt that we have abolished or retired the vehicle for banking. But this action of Congress to go on coining, say, 5,000,000 ounces of silver a month, supplies a basis for thirty millions of business, and by February I apprehend the thirty millions we have commenced to put out will all be out, and that it will be felt very decidedly in the money market. Indeed, it may have the effect of an inflation of the currency, and stimulate things more than enough."

Quietly playing with a piece of paper in his fingers, Mr. Gould said: "I think that the United States and France, being bimetallic countries, now have it in their power, under the good feeling of dependence which exists between all the great commercial countries, to bring about the restoration of bimetallism. You see that the French have shown themselves with a silver coinage to be extremely saving, and hence the Bank of France, in spite of all that France has had to pay since her war, has come forward to the assistance of England and Germany, and it seems to me that the nations and the bankers must take a better view of that prudence which in France has conserved the silver and helped the condition everywhere. Now we are, I think, the richest nation to-day in the world, not merely rich in our extensive country and its great fertility, but rich in accumulations. Indeed, I have no doubt

myself that about \$100,000,000 are now hidden away in stockings. I do not mean literally stockings such as the old ladies use, but the coin has been taken out of business and put into safe deposits' private safes." * * *

"The steps taken to increase the amount of the silver coin give us all I think we can take care of. We have hitherto, in spite of predictions to the contrary, absorbed the silver coinage, and it has acted in the nature of more currency. If they will stop the business now society will adapt itself to this already voted increase. But the tendency is when you get anything like that into politics to go on and do too much. Let them let it alone as it now is."

"Is it not true that the French, being in the main an agricultural people, can take care of their silver better than we, who are speculative?"

"No, the French are a speculative people too. When I was in France about ten years ago I was invited by a Mr. Philpott, who was about to open a new bank, to come there and see the subscriptions taken. George, wasn't that gentleman's name Philpott whom we saw in France opening his bank?"

"Yes," said George; "he afterward got into the copper pool and made a smash of it, and killed himself; I think that was the man."

"Well," said Mr. Gould, "there might have been a quarter of a mile of people there in line, of all sorts, coming to make their subscriptions. Some had \$100 and some \$500, and some a good deal more. It showed me that the French had confidence, and that they were also a speculative race. You see the advantage of bimetallism is that when things get tight over there, and people begin to withdraw their money, they can pay them in silver, which is heavy, and it takes time to get it away. So there is no such drain as nations have which must pay right out in gold and gold currency. A few days of a check like that often brings a sober second thought to investors and depositors, and cools off a panic. We must take care in this country that we do not get hold of so much silver that our gold will be exported."

"Is not that the case with Mexico?"

"Yes, the Mexicans keep their gold and ship their silver. The two metals are required to keep up the equilibrium. I think that this is now a prime question, and that the late excitement in England, which was allayed by the help of France, will cause a milder feeling than the radical sentiment which has for some time past prevailed among the extreme one-standard men. The United States will have a moral advantage in uniting with France and bringing the silver question again to the attention of Germany and England. It ought to be done, and the combined action of the great civilized powers would steady extremists everywhere."

A Matchless Country.

"Have you ever found any country which yields as equally and regularly as ours? Is there any piece of ground to match the United States?"

Mr. Gould shook his head.

"We not only have the gem of countries," said he, "but we have a people who are splendid consumers; who buy as well as build, and who keep the whole nation well fermented by their industry, taste and intelligence. I am a believer in the Anglo-Saxon race. If we have a great country, it is because we have an energetic race."

"Do you think we have too much railroad in the United States?"

"No, not generally speaking. In some localities there may be too much railroad."

"Have we too many Pacific railroads?"

"That might be said if they only did business between the Atlantic and Pacific oceans, but each of these railroads makes a way business which greatly assists to pay expenses. No, I think we can sustain the

railroads we have, as the intermediate regions rapidly settle up."

"Do we have too much manufactures?"

"No. I do not think that these political elections carry any more meaning than the temporary disaffection with what Congress, or some one administration has been doing. It seems to me sometimes that we either ought to have fewer elections or more of them; that is to say, if we could turn down a Congressional majority without appealing to the country to vote, the effect would be quicker and cheaper."

Texas and the South.

"I understand that Texas is about equal to all the rest of the South in natural wealth?"

"Not all of Texas is equally productive. The eastern part of Texas, in the latitude of Fort Worth, is a finely timbered country, where the long-leaved pine grows a hundred feet high, and most extensive groves exist of it. I should rather think that a third, perhaps two-thirds, of the business of the Missouri Pacific Railroad is in hauling timber. To the west of this timber district you have about 100 miles of very fine land for grain, cotton and so on; then you have 500 miles of rising land not good for much but grazing. It is therefore not true that the whole of Texas, as some seem to think, is arable prairie and agricultural land. I am rather of the opinion that as a body of land, taken in one piece or view, Louisiana is richer than Texas. Texas, however, is getting along very well. They will get \$90,000,000 this year for their cotton alone. But the South is feeling compelled to vary its industries. They are growing a great deal of garden vegetables for early consumption in the North all through the Southern States. They have some manufactures, and they are extending."

"Is Galveston likely to remain the principal port of Texas?"

"That depends upon whether they can get water enough to the channel of Galveston. They are still hopeful, and I think they may come out all right."

"Is not New Orleans growing slowly, considering its communications?"

"Yes, the city grows slowly in population, but the trade of New Orleans is first-rate. One defect about New Orleans is its lying below the water line. If the Atchafalaya river should ever become the true Mississippi, as has been feared, the effect might be to make a new city at the mouth of that river. Unquestionably the Atchafalaya was the original path of the Mississippi. The problem consists in keeping the Red river flowing into the Mississippi. If the Red river should make up its mind to flow off through the Atchafalaya the Mississippi itself might take the same route."

"Is your railroad from Shreveport to New Orleans continually open, or does it suffer from the floods?"

"That is a fine line, and, with rare exceptions, it is open."

"Is there much migration into the Southern States, from the West, for example?"

"No. The course of emigration seems to be Westward and Northwestward. And yet some of the cheapest and best lands on the globe for the money are to be found in the Gulf States, like Mississippi. The negro question has been something of an annoyance in the South. You know the negroes breed like rabbits. However, they are far ahead of what they were."

Big Sales in Salem, Va.

The result of the anniversary sale of lots, December 11th and 12th, by the Salem Improvement Co., of Salem, Va., was \$201,785, and the total sales of the company for the year \$710,488.

HAVE you real estate notes, municipal or county bonds that you want to convert into cash? If it is a Southern note or bond you can advertise it free, four times, in the MANUFACTURERS' RECORD.

ANTIETAM

NOW KNOWN AS

SHENANDOAH JUNCTION,
WEST VIRGINIA.*"The Best Unoccupied Town-Site in the South."*

THE ANTIETAM MANUFACTURING & LAND IMPROVEMENT CO.

Organized under a West Virginia charter, has secured at the crossing of the main line double track Baltimore & Ohio Railroad and the Shenandoah Valley Railroad, a large town-site and valuable mineral lands and mineral rights.

It is proposed to found here an industrial town to be called Antietam.

TOWN-SITE LANDS.

The town-site lands of the Company comprise the best and most available lands for business and residence purposes commanding this great trunk line crossing and comprise 840 acres compactly situated.

Adjoining the lands of the Company 200 acres have been secured as a site for building three of the largest and most important industries ever organized in the Southern States—establishments which will employ several thousand hands, mainly skilled workmen.

The Antietam Steel Co.

The Antietam Plate Co.

The Antietam Pipe Co.

Will Employ 4,200
Hands, Skilled Labor,
With a Pay Roll of
\$8,500 per day.

Other Industries
Secured.

Room for More.

Other industries arranged for will employ about 500 hands.

The completion of these various works will give immediate foundation for a prosperous industrial town of 20,000 to 25,000 people.

This is in no sense an acreage enterprise, nor a boom town. Nature has made Shenandoah Junction the upper gateway and cross line point of the great valley extending from Harrisburg, Pa., to Chattanooga, Tenn.

The Company has secured the lands which command the whole situation, and its purpose is to concentrate its efforts upon the work of building up a solid, compact town with first-class modern conveniences in water works, sewers, gas, paved streets and substantial buildings.

A 300-TON STEEL PLANT.

The first in importance of the great industrial establishments to be erected is a 300-ton steel plant, which will include rolling mills to work up the product of the furnace into finished, merchantable steel. This plant will be operated by a direct continuous process which permit the making of steel from non-Bessemer as well as Bessemer ores.

The product of this plant will have a value at the mills of not less than \$12,000 a day.

PLATE MILL.

A plant for making "Russian" sheet steel and also for converting sheet steel plates into a new product impervious to the action of acids, chlorine, alkalis or sulphur. Will employ about 1,000 hands; pay roll \$2,000 per day. Will work up about 150 tons per day of sheet steel. The plate mill company have all the

RUSSIAN PROCESSES

so long kept secret from the world, and have in addition original processes for converting sheet steel into a product superior to tin plate or block tin at greatly less cost.

The third of the larger industries will be a plant for processing by lining or covering, or both, all sizes of water, gas and steam pipe, boiler and boiler plate, distillery pipes and tubes and any and all forms of iron and steel, to make it proof against weather, the chemicals of earth and air, or solutions of a corrosive character.

OTHER INDUSTRIES.

So far secured, to be located on the Company's lands, include:

First.—A foundry and machine shop.

Second.—A planing mill and sash, door and blind factory.

Third.—A carriage factory.

Fourth.—A carpet factory.

Fifth.—A knitting mill.

These industries will employ in all about 500 hands, almost wholly skilled labor.

The Antietam Manufacturing & Land Improvement Company contributes to the steel plant 1,000 acres of very valuable mineral lands and \$35,000 in cash when the steel plant shall have been one-third completed.

Capital of the three larger industries \$3,500,000. These have selected their location at Shenandoah Junction because of inexhaustible resources of iron ores, and the unlimited supply of coke and coals near at hand and the surpassing transportation facilities, coupled with the unlimited natural resources in timber, coal, iron, clay, lime, sand and other materials all around, and transportation to facilitate their concentration.

The Company's townsite is in the most beautiful portion of the Shenandoah valley, surrounded by rich, valuable and highly cultivated lands. It has every advantage in the way of delightful climate, healthfulness and cheap living.

WHAT THE COMPANY OFFERS.

After deducting 100 acres reserved for industries and 40 acres for park, there remain 700 acres to be cut up into 4,000 business lots and 1,800 residence lots.

Of the \$1,000,000 capital stock \$940,000 will be offered for subscription, in shares of \$100 each.

After \$30 a share has been paid—\$20 cash, \$10 in sixty days, \$10 in four and \$10 in six months—full paid and non-assessable stock will be issued for the full number of shares subscribed for.

The \$940,000 of stock will bring in \$470,000. Of this, \$300,000 will pay for the town-site lands, the 1,000 acres of mineral lands and 100 acres of valuable marble and cement lands. Thus \$170,000 will remain in the treasury for carrying on the work of development, without counting or drawing upon the proceeds of the sale of lots. The \$35,000 cash donation to the steel company does not become due until the works are one-third completed. This plant will cost about \$750,000 and consume nearly two years in building. The two associated companies can be at work in about one year.

Work on the five industries named to be put on the company's lands can go forward at once. In order to secure these the company has undertaken to subscribe \$50,000 to their capital stock. Advertising expenses, &c., are estimated at \$25,000.

With the \$95,000 which will remain in the treasury it is proposed to at once begin the erection of a first-class small hotel to cost about \$35,000, and to devote \$60,000 to

the beginning of a first-class system of water works, supplied from the Potomac. The Town Company proposes to build and own its own water and gas works.

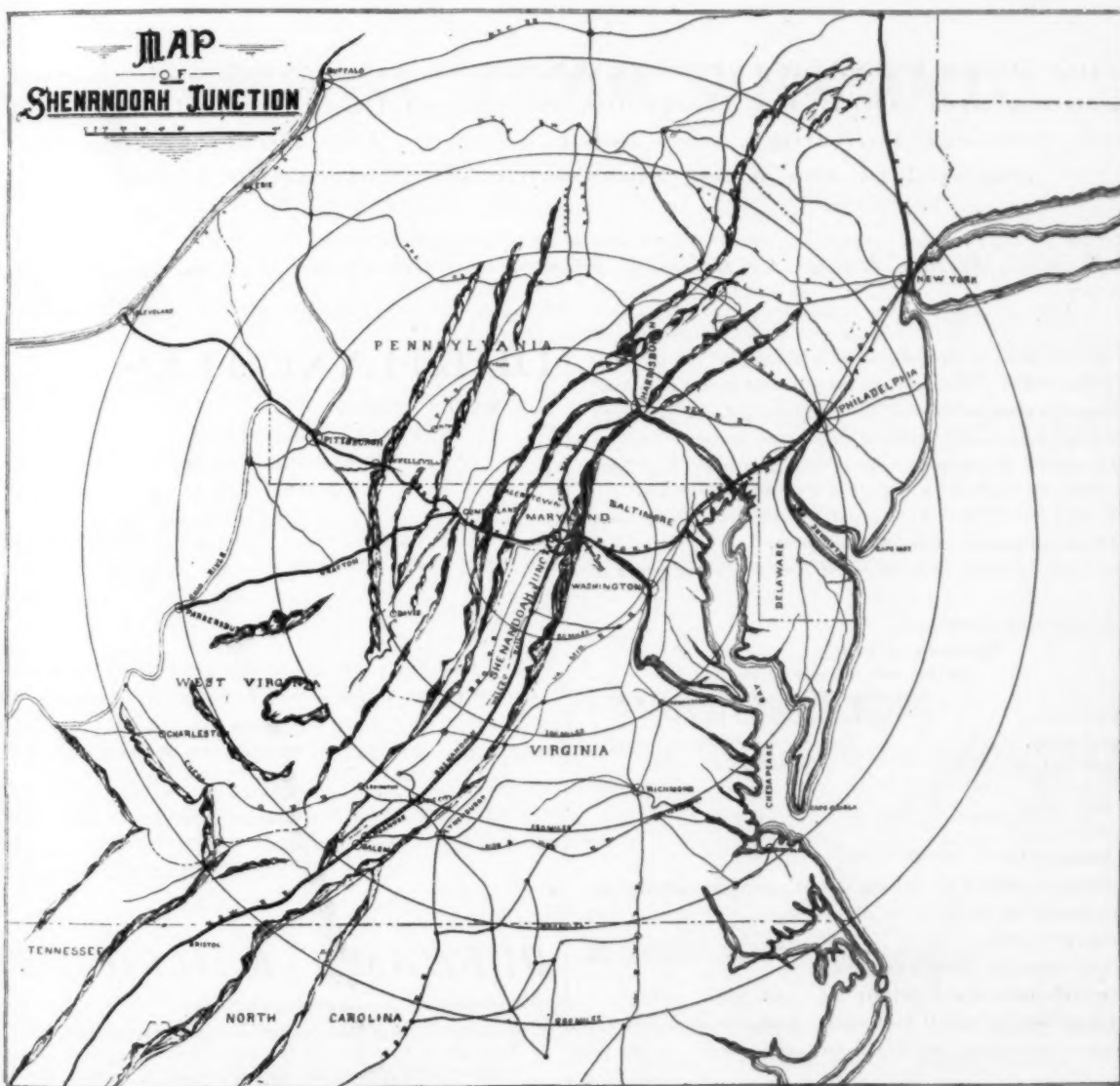
It is believed that within six months from the first of January, 1891, 1,000 business lots can be sold at an average of \$300 each, and 500 residence lots at about the same price, which is less than 50 per cent. of what it is known many lots will be taken at immediately on the opening of the property for sale. This would substantially recoup the entire outlay and leave as surplus assets 3,000 business and 1,300 residence lots to be sold at constantly increasing prices.

A CONSERVATIVE AND PROFITABLE INVESTMENT.

We feel that this stock is well worth its par value to-day, as it is founded upon a town-site which cannot be equaled in advantages of a solid and permanent character anywhere from Harrisburg to Chattanooga. That in putting it upon the market upon the ground-floor basis named we are offering an investment that is eminently conservative, because its value cannot under any circumstances become less than its cost, while it is a moral certainty that it must soon become worth several times the full par value of the stock.

Inquiries for additional information should be addressed to Coleman Rogers, Esq., secretary of the company, at Shenandoah Junction, W. Va., or to other officers of the company.

All subscriptions for stock must be accompanied by certified checks or bank exchange on New York to the amount of the \$20 per share required for the first payment, payable to the order of "Treasurer Antietam Manufacturing & Land Improvement Co.," and addressed to Coleman Rogers, secretary Antietam Manufacturing & Land Improvement Co., Shenandoah Junction, West Virginia.



Antietam Manufacturing & Land Improvement Co.

SHENANDOAH JUNCTION, WEST VIRGINIA.

B. R. HUTCHCRAFT, President.

W. F. M. McCARTY, Vice-President and General Manager.

EDWARD W. MEALEY, Cashier Hagerstown Bank, Treasurer.

COLEMAN ROGERS, Secretary.

DURHAM, North Carolina,

CONSOLIDATED LAND & IMPROVEMENT CO.

CAPITAL - - - \$1,000,000.

PRESIDENT, **JULIAN S. CARR**, Prest. Blackwell Durham Tobacco Co.

VICE-PRESIDENT, **A. B. ANDREWS**, 2d Vice-Prest. Richmond & Danville Railroad.

SECRETARY AND TREASURER, **R. H. WRIGHT**.

This Company Owns 900 Acres of Land, 300 in the Business and Residence Portion of East Durham, and 600 in the Residence Section of Durham and Around the New Trinity College Buildings, now being erected. The First is Adjacent to Several of the Most Successful Manufacturing Plants.

The Residence Portion, Notable for Beauty of Situation, has been Platted to Secure the Best Effects.

NO EXPENSE will be spared by the Company in developing all this property. A standard gauge railroad, connecting with every railroad entering Durham, will pass through the center of the land designed for industries. A dummy line, under construction, will connect all the outlying lots with the center.

A Cotton Factory to employ 150 hands is to be built at once on the East Durham property; also a Flour and Meal Mill with a capacity of 200 barrels a day.

THE COMPANY HAS NO STOCK FOR SALE. It will offer only alternate lots, reserving others for enhancement in value by development.

Enterprises of merit will be aided by donations of sites and subscriptions to capital stock.

Some of the industries already planned are:

A Knitting Factory,	Woodworking Factory,
Furniture Factory,	Bucket and Barrel Factory,
Chair Factory,	Sash, Door, Blind and Finishings Factory,
Wagon Factory,	Spoke and Handle Factory,
Buggy Factory,	Foundry and Machine Shops,
Refrigerator Factory,	Brick Works,
	Brown Stone Quarry.

In 1856 Durham was named.

Population 1865, 90 persons

Population 1890, 8,000 persons.

In 1871 the first tobacco warehouse for the sale of leaf tobacco was established.

In 1890 it has four among the largest in the United States.

Taxable Values 1890, \$6,293,898.

Rate of taxation, city, county and State, 1 per cent.

In 1869 it had 6 manufactories, capital \$25,000.

In 1890 it has 23 manufactories, capital \$12,000,000; number of employees 2,000.

Wages paid, 1890, \$750,000; advertising, 1890, \$1,000,000; paid revenue tax one year, \$827,269.54.

Durham has three Banks—capital, \$400,000.

Surplus, 49,000.

Deposits, July 1st, 1890, 623,000.

It has three newspapers, two daily and one weekly.

DURHAM HAS

WATER WORKS,

ELECTRIC-LIGHT PLANT,

TELEPHONE SYSTEM,

STREET CAR LINE,

FIRE DEPARTMENT,

TEN CHURCHES (for whites),

SCHOOLS,

TRINITY M. E. COLLEGE.

Situated in the center of Golden Belt of North Carolina, comprising counties of Durham, Orange, Person, Caswell, Alamance, Chatham, Wake, Franklin and Granville.

114 miles from Lynchburg.
160 miles from Richmond.
175 miles from Norfolk.
26 miles from Raleigh.
50 miles from Sanford.
135 miles from Charlotte.
55 miles from Greensboro.

DURHAM'S RAILROADS:

RICHMOND & DANVILLE SYSTEM.

DURHAM & KEYSVILLE, giving close Richmond Connection.

DURHAM & NORTHERN to Henderson, connecting with Seaboard Air Line.

LYNCHBURG & DURHAM, crossing Atlantic & Danville, and connecting with Richmond & Danville, Norfolk & Western and Chesapeake & Ohio at Lynchburg.

L. & D., to be extended to Fayetteville and junction there with Cape Fear & Yadkin Valley, crossing Robinson's System en route.

Extension of WILMINGTON & WELDON SYSTEM, already ordered by that company from Stanhope, N. C., to Durham.

Manufacturers Desiring a Location where all the Conditions of Cheap Materials, Climate and Railroad Facilities can be had in a Well-Established, Well-Advertised, Prosperous Community, Should Address

R. H. WRIGHT, Secretary and Treasurer,

DURHAM, N. C.

KIMBALL.

MARION COUNTY,

TENNESSEE.

KIMBALL TOWN COMPANY.

H. I. KIMBALL,

Vice-Prest. & Managing Director.

DIRECTORS.

HON. LOGAN H. ROOTS, President of First National Bank, Little Rock.
 CHARLES P. RICHARDSON, Capitalist, Chattanooga.
 J. R. STEVENS, President First National Bank, Huntsville, Ala.
 A. J. MORISON, Capitalist, London, England.
 J. H. BRYANT, President Seattle Coal & Iron Co., New York.
 GEO. COOK, President Hallet & Davis Piano Co., Boston, Mass.

HON. H. L. COCHRAN, Judge Probate Court, Fort Payne, Ala.
 H. I. KIMBALL, Atlanta, Ga.

OFFICERS.

President, HON. LOGAN H. ROOTS.
 Vice-President, C. P. RICHARDSON.
 Second Vice-President and Managing Director, H. I. KIMBALL.
 Treasurer, J. H. BRYANT.
 Assistant Treasurer, ED. E. RICHARDSON.
 Secretary W. E. DONALDSON.
 Assistant Secretary, W. BROOKS COVELL.

ATTORNEYS.

W. E. DONALDSON, Kimball.
 SHEPHERD, WATKINS & BATES, Chattanooga.

ENGINEERS.

Landscape Engineer, NATHAN G. BARNETT.
 Resident Engineer, W. J. KELLY.
 Sewerage and Electrical Engineers, NIER, HARTFORD & MITCHELL.

Hon. SAM'L H. BUCK, Gen. Superintendent.

OFFICES.

Richardson Building, Chattanooga.
 Union Trust Building, 80 Broadway, New York.
 Company's Building, Kimball, Tenn.

Kimball Offers

Solid, practical inducements to manufacturers. First-class enterprises under good management will be guaranteed, one-half the cash required. Local taxes will be remitted for a term of years. Lowest freights and cheapest raw materials will be secured.

Auxiliary Companies

will be organized by the parent corporation for developing the wealth of the Sequachee Valley and for supplying the city with heat, light, water, power and transportation.

A Mammoth Industrial Building

will be erected by the Kimball Town Company, which will have power, light and heat, that will be supplied to manufacturers on the most liberal terms.

Ample provision made for religious and educational institutions.

No Further Auction Sales

this year and no private sales of the corporation's lots except to those who will contract to build immediately on plans approved by the management.

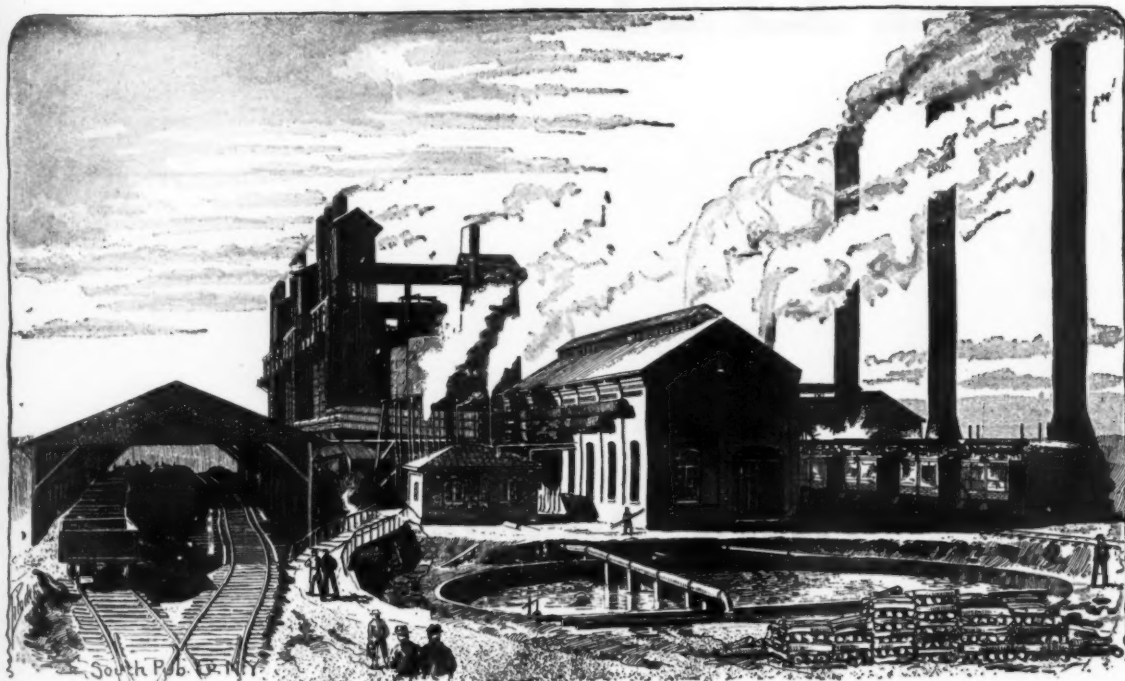
ALL CORRESPONDENCE SHOULD BE ADDRESSED TO

H. I. KIMBALL, Managing Director,

CHATTANOOGA, TENN.

SHEFFIELD, ALA.

THE SUPERB.



At the Headwaters of Deep Navigation on the Tennessee River, the Hudson of the South.

The Largest Producer of HIGH-GRADE Pig Iron of any City in the Entire Industrial South.

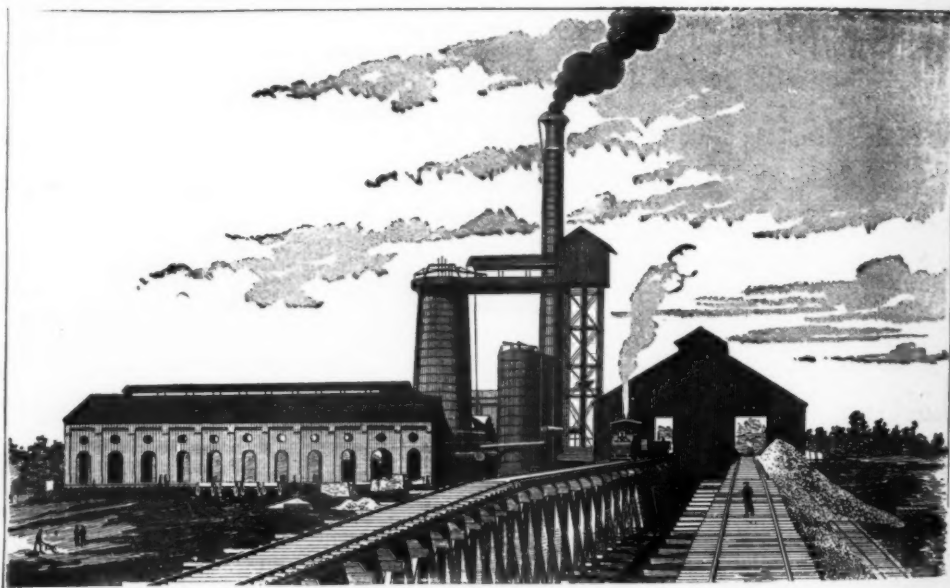
The only point in the South that has or can ship pig iron to the cities on the Mississippi, Missouri and Ohio rivers by boat or barge without rehandling. This last shipment of 5,000 tons of Pig Iron to Pittsburgh, Pa., by barge was made at a saving of \$2.65 per ton over what any iron-producing city of the South has done or can do to-day.

Five Large Blast Furnaces

Capacity 750 tons pig iron per day.

The following are among the corporate and private enterprises that belong to Sheffield:

The Sheffield Land, Iron & Coal Co., capital \$1,000,000.
 The Sheffield & Birmingham Coal, Iron & Railroad Co., capital \$1,000,000; the owners of three 150-ton blast furnaces.
 The Birm., Sheffield & Tenn. River Railway Co., capital \$5,000,000.
 The Hattie Ensley Furnace, capital \$200,000.
 The Lady Ensley Furnace Co., capital \$200,000.
 The Electric Light & Gas Fuel Works, \$50,000.
 The Sheffield Ice Co., capital \$25,000.
 The Sheffield Manufacturing & Constructing Co., \$30,000.
 The Sheffield Contracting Co., \$50,000.
 The Eureka Brick & Lumber Co., \$30,000.
 The Howard Brick Co.
 The Sheffield Bakery & Bottling Works.
 The Sheffield Mineral Paint Co., capital \$50,000.
 The Sheffield Agricultural Works, capital \$40,000.
 The Sheffield Cotton Compress Co., \$50,000.
 Millan Brothers, Steam Laundry.
 Enterprise Publishing Co.
 Water Works, already expended, \$30,000.
 Sheffield Street Railway Co., capital \$100,000.
 Cleveland Hotel Co., capital \$50,000.
 Sheffield Hotel Co., capital \$120,000.
 Bank of Commerce, capital \$150,000.
 East Sheffield Land Co., capital \$500,000.
 Hull & Keller's Fern Quarries.
 Mobile Real Estate Co., capital \$50,000.
 Sheffield Real Estate Co., capital \$50,000.
 Sheffield & Mobile Improvement Co., capital \$100,000.
 Sheffield Stove Works.
 Henderson Milling Co., capital \$100,000.
 Globe Iron & Brass Works, capital \$10,000.
 Standard Machine Shop & Foundry, capital \$50,000.
 Owen Pink Mixture Co., capital \$100,000.
 Bell Telephone & Telegraph Co.
 Foulds' Shoe Factory, capital \$20,000.
 Enterprise Wood Working Co., capital \$30,000.
 Buchanan Straw Goods Factory, \$25,000.
 The Sheffield Harness & Saddlery Co., capital \$20,000.
 Principal Shops of the Sheffield & Birmingham Railroad.
 Principal Shops Memphis & Charleston Railroad, now being built.



Aside from the foregoing the following are in course of construction and may be considered positive: Principal Shops of the Memphis & Charleston Railroad; Principal shops of the Nashville, Florence & Sheffield Division of the Louisville & Nashville Railroad. Reasonably certain to be secured in the near future are the following, in regard to which negotiations are pending: A Rolling Mill; Large Machine Shop; A Cotton Mill.

ALABAMA'S IRON CITY.

The Superb Location at the head of navigation on the Tennessee River, commanding the outlet to immense fields of IRON ORE and COAL and magnificent tracts of the finest Timber. Has already attracted to the spot where three years ago in a cotton field her projectors set the stakes of a new city, capital and people, unequalled in amount and number, circumstances considered, by any of the so-called new cities of the South.

With eight Church Organizations, two Free Public Schools, Postoffice, Telegraph and Express offices and abundant facilities of transportation by river and rail. It has every advantage as a residence city that can be desired.

Good Water; Drainage Excellent; Health and Climate Unsurpassed. Free Public Schools and Churches. Splendid opening for men of push and energy. No better point for profitable investment. No "Old Fogey" element here.

Sites for Manufacturing Enterprises

And for Free Public Schools and Churches

Donated by the Sheffield Land, Iron & Coal Company.

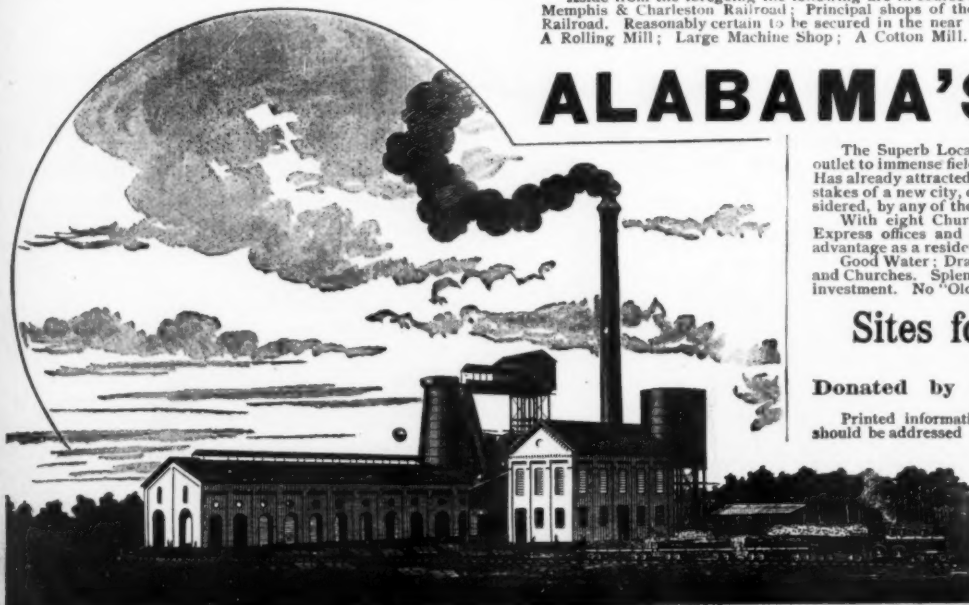
Printed information furnished on request. Correspondence solicited. Communications should be addressed

W. L. CHAMBERS,

Vice-President and Manager.

Sheffield Land, Iron & Coal Company,

SHEFFIELD, ALABAMA



LAREDO, TEXAS.

The Gateway to and from the Republic of Mexico

Is nature's grand outlet for the manufactured products of the United States and nature's grand inlet for the mineral and raw products of Mexico. For the cheap delivery of the raw material necessary for the successful operation of iron and all textile industries, Laredo holds a position unsurpassed, every material being found in the immediate neighborhood. The very foundations of the city are upon inexhaustible coal beds, now being rapidly developed. A glance at the map will show that there are no large cities within hundreds of miles of Laredo, and her favorable geographical location, being from 600 to 800 miles nearer the trade centers of both republics than any other frontier port, stamps her as the commercial entrepot between the United States and Mexico.

Laredo is becoming a most important manufacturing point,

having the following industries already located and in operation:

Woolen Mill.
Wool Scouring Mill.
Tannery.
Boot and Shoe Factory.
Ore Concentrating Works.
Ore Sampling Works.
Cotton Gin and Milling Works.
Mineral Water Bottling Works.
Four Ice Factories.
General Car and Machine Shops of the Mexican National Railroad, the largest west of the Mississippi.
Three Large Brick-yards and several smaller establishments.
A large Cotton Factory is now being erected by a New England syndicate.

Laredo Offers to the Capitalist, Merchant, Manufacturer and Mechanic Opportunities for Investment, Business or Manufacturing such as no other City in the Southwest can offer.

The city is well supplied with railroad facilities and hotel accommodations, has Holly system of water works, two electric-light companies and one of the best equipped electric motor street railways in the United States.

Population.		Imports and Exports.
1886.....	3,000	
1888.....	6,000	1888.....\$ 3,000,000
1889.....	12,000	1889..... 10,543,000

For Maps Pamphlets, Bird's Eye Views and Reliable Information of Laredo, address

THE LAREDO IMPROVEMENT CO.

FOR SUCH INDUSTRIES AS

COTTON MILLS,
WOOLEN MILLS,
TANNERIES,
BOOT AND SHOE FACTORIES,
HARNESS AND SADDLE FACTORIES,
FURNITURE FACTORIES,
CARRIAGE AND WAGON FACTORIES,
FLOUR MILLS,
GRIST MILLS,
CRACKER FACTORIES,
CANNING FACTORIES,
COTTON-SEED OIL MILLS,

DALLAS, TEX.

Is equal to any locality
in America in its
combined advantages of
**CHEAP AND
ABUNDANT
RAW MATERIAL
READY,
PROFITABLE
AND EXPANDING
MARKET.**
DISTRIBUTING FACILITIES,
ELIGIBLE SITES,
GOOD CLIMATE.

Any worthy industries
will be aided liberally by the

DALLAS MANUFACTURERS' AID & IMPROVEMENT CO.

711 Main Street, Dallas, Texas.

THE PLACE FOR FACTORIES.

THE ROANE IRON CO.

WILL BUILD UP A

• **LARGE MANUFACTURING CITY** •

— AT —

ROCKWOOD, TENN.

AND IS PREPARED TO OFFER SUBSTANTIAL INDUCEMENTS TO MANUFACTURERS.

— AS TO RESPONSIBILITY OF THIS COMPANY, PARTIES ARE REFERRED TO EITHER DUNN OR BRADSTREET. —

FOR PARTICULARS ADDRESS

ROANE IRON CO., Rockwood, Tenn

LURAY, Virginia.

2,500 Acres Town Lands,

8,000 Acres Mineral Lands,

Luray Inn and Caverns.

The Valley Land & Improvement Company,

Capital Stock, \$2,000,000.

Luray, Page County, Va.

DIRECTORS.

D. F. KAGEY, Luray, Va., President.

G. C. MARSHALL, Unlontown, Pa., Vice-President and General Manager.

T. E. McCORKLE, Lexington, Va.

DR. W. L. HUDSON, Luray, Va.

G. K. MULLIN, Philadelphia, Pa.

DR. A. M. HENKEL, Staunton, Va.

J. W. MILLER, Mount Jackson, Va.

EXECUTIVE COMMITTEE.

D. F. KAGEY,

G. C. MARSHALL,

T. E. McCORKLE,

G. K. MULLIN.

Secretary, T. E. McCORKLE.

Treasurer, H. M. KERR, Kagey & Co.'s Bank.

Attorney, T. E. McCORKLE.

Associate Counsel, H. J. SMOOT,

Manager of Inn and Caverns, G. K. MULLIN.

Bankers, D. F. KAGEY & CO., Luray, Va.

CHARTER, PROPERTIES, &c.

The Valley Land & Improvement Company has been organized under the most liberal charter ever granted by the State of Virginia.

2,500 acres for manufacturing purposes and building sites. These lands are in and around the hotel, caverns and town of Luray on an undulating plateau, protected on either side by the Massanutten Mountain and the Blue Ridge Mountains.

8,000 acres of the best mineral properties in Virginia, consisting of iron, manganese and other valuable minerals which have stood the test of examination by the ablest geologists of the country.

The company owns the celebrated Luray Inn and the Luray Caverns.

Page County stands at the head of the list as having a greater variety of minerals and richer than any other county so far as known in the State.

In addition we have the finest kind and a great variety of virgin timber and fire-clays, slates, beautiful marbles, ochres, umber and mineral paints.

LOCATION, RAILROADS, &c.

Luray, now a town of about 2,500, is the county seat of Page county, has five churches, splendid schools, fine stores, three newspapers, flouring mill, cigar factory, &c.

The town is on the Shenandoah Valley Railroad, of the Norfolk & Western system, and is the best location in Virginia, four hours from tidewater.

Two new lines projected connecting closely with Baltimore and Washington and insuring cheap freights.

Luray has largest tannery in the world, annual pay roll over \$350,000.

Unexhaustible water supply, agricultural resources, charming climate.

Fine natural sites for furnaces and manufactories of all kinds fronting the railroad, reserved by the company, which by donations of land and in every possible way will promote Luray's manufacturing interests.

LOTS, CAPITAL STOCK, &c.

Capital stock \$2,000,000, shares \$100.

One million of stock reserved in treasury for betterment.

One million now offered for sale.

Books open at the bank of D. F. Kagey & Co., Luray, Va.

The company reserves the right to close the books any time before the full amount of the one million is sold.

Twenty per cent. must be paid on subscription, 20 per cent in 30 days, the balance equally in six and twelve months.

When half of the subscription is paid in subscribers have the right to use their stock in payment on lot purchases.

The company feels safe in saying that with the magnificent property in hand, the Inn and Caverns, it will be enabled when thoroughly under way to pay four or five per cent. dividend on the stock sold, independent of lots and mineral lands.

The company already owns an electric plant which will be considerably enlarged.

Complete system of water works and many other improvements projected. Investors are referred to Mr. J. W. Wheeler, Cashier Drivers and Mechanics' National Bank, Baltimore, Md., for full information. H. C. Turnbull, Jr., real estate agent, 52 Lexington street, will receive subscriptions of stock in Baltimore.

The fullest investigation invited.

THE VALLEY LAND & IMPROVEMENT COMPANY, LURAY, PAGE COUNTY, VA.

DENISON, TEXAS.

The Queen City of the Southwest

AND

GATEWAY TO THE GREAT STATE OF TEXAS.

The City of Denison Presents the Finest Opportunity of any City in the Southwest for the Investment of Capital in Large or Small Sums.

DENISON is situated in Northeastern Texas near inexhaustible beds of Coal and Iron, surrounded by the finest Fruit Lands in the world, and adjoining the INDIAN TERRITORY, which, in the nature of things, must in a few years be opened to settlement.

The city is regularly and beautifully laid out. Railroads run from it in four different directions. The Missouri, Kansas & Texas alone does an enormous business, having 54 miles of switch track in Denison, employing 500 skilled workmen and disbursing \$150,000 a month in wages.

The Houston & Texas Central Railway has its northern terminus here. The Choctaw Coal & Railway Co. have recently completed a survey of a line from Hartshorn, I. T. (a junction point with the main line of their road) to this city. The Denison, Sherman & Dallas Railway is now being constructed from here to Sherman, and four other roads have located lines to this point, with very good prospects of building.

The first public school in the State was established here, and the city's elegant two and three-story brick school buildings, surrounded by attractive grounds, are well arranged for the use of the white and colored children. Its schools are in session ten months in each year. We have sixteen church societies, seven of which are colored.

The city is well supplied with pure water from its numerous private wells—dug in the ground—and its first-class system of water works. Rate of taxation low.

The city has six miles of street railway, and a seven-mile-motor railway; has an electric-light and gas company and a telephone plant. It has an influential New England colony, and counts among its citizens people from every State in the Union.

The erection of a large hotel to cost \$125,000, and a steel plant with \$2,000,000 capital is contemplated.

The population of the city by census of 1890 shows a gain of 170 per cent. in ten years.

35,000 bales of cotton were shipped from Denison in 1890, and many carloads of fruit and early vegetables are shipped annually.

The Denison Canning Co., capitalized at \$100,000, has one of the largest canning factories in the country.

The Denison Cotton Manufacturing Co.'s 25,000-spindle mill, to cost \$500,000 and to employ 650 hands, will be completed by January 1st, 1891.

The climate of Denison is magnificent, situated nearly 800 feet above sea level. In summer it is warm, but far cooler than many cities farther North, and from 6 P. M. until after sunrise it is always cool. The city is very healthy.

The capacity of the ice factory is now increased from a daily output of 30 to 50 tons.

The Denison Land & Investment Co. is prepared to give every reasonable encouragement to manufacturers, and solicit correspondence from such manufacturers as contemplate coming into the Southwest to locate.

Address all communications to

THE DENISON LAND & INVESTMENT CO.

Paid-Up Capital, \$1,200,000.

DENISON, TEXAS.

OFFICERS.

W. P. RICE, President.

MILTON H. FRENCH, Vice-President.

B. J. DERBY, General Manager.

ARTHUR L. BERRY, Secretary and Treasurer.

DIRECTORS.

W. P. RICE, Kansas City, Mo.

J. M. FORD, Kansas City, Mo.

SAM STAR, Denison, Tex.

MILTON H. FRENCH, Thomaston, Me.

JOS. B. LINCOLN, Boston, Mass.

B. J. DERBY, Burlington, Vt.

ARTHUR L. BERRY, Denison, Tex.

M. V. B. CHASE, Augusta, Me.

B. C. MURRAY, Denison, Tex.

Write to the



*The
Richest.*

*Best
Managed.*

C
A
R
D
I
F
F
C
A
R
D
I
F
F

*Greatest
Resources.*

*Unequalled
Opportunities.*

Coal & Iron Co.

CARDIFF, ROANE CO, TENN.

The Middlesborough Town Company,

ALEX. A. ARTHUR, President.

JOHN B. CARY, Sec. and Treas.

Fourteen months ago the population of the present site of Middlesborough, Ky., did not exceed 50; to-day the town has a population exceeding 6,000. It is a conservative estimate to say that in three years 50,000 people will be living here. The amount of capital now invested in the development of Middlesborough reaches

\$26,500,000.

The history of the world does not show an instance of such amazing development in so short a time and on so sure and solid and permanent a foundation.

The developments here are in the hands of English capitalists, whose purpose it is to create around Cumberland Gap the greatest coal and iron development the world has ever known.

Statement of Development to September 1, 1890.

	Number.	Value.
Business houses erected and occupied.....	83	\$ 285,000
Business houses being erected.....	41	441,500
Business houses contracted for, to be completed by Jan. 1, 1891. 31		176,500
Residences erected and occupied.....	280	417,250
Residences being erected.....	97	228,450
Residences contracted for, to be completed by January 1, 1891. 72		161,450
Industrial plants in operation.....	16	289,500
Industrial plants building.....	27	2,872,500
Industrial plants contracted for.....	14	750,000
Hotels built and occupied.....	7	132,000
Hotels being erected (including Harrogate and Cumberland Gap).....	6	850,000
Hotels contracted for.....	3	45,000
Churches completed.....	5	22,500
Churches being erected.....	3	18,000

PUBLIC BUILDINGS.

Schoolhouse.....	3,500
Public library and exhibition hall.....	25,000
City hall.....	10,000

The above statement includes only cost of construction, and does not include working capital or value of properties or stock.

BANKS.

	Capital.	Deposits.
Coal & Iron Bank.....	\$1,000,000	\$430,000
First National Bank (to be increased to \$100,000).....	50,000	160,000
People's Bank.....	500,000	120,000
Bank of Middlesborough (to be increased to \$100,000)....	50,000	60,000
Bank of Cumberland Gap.....	50,000	17,000
Bank of Claiborne	25,000	10,000
Total.....	\$1,675,000	\$797,000

POPULATION.

The population of Middlesborough was fifty souls in May, 1889. In August, 1890, about 6,200. Including the plants that are now completed and those that are in course of construction, which, by contract, are to be completed inside of fifteen months, Middlesborough will have a working population, composed of skilled and unskilled labor, of 7,688 men, which, according to all acknowledged rules, will give the city in eighteen months nearly 40,000 inhabitants.

NOTE.

Two years ago the nearest railroad was at Corbin, on the Louisville & Nashville System. To-day there are in Middlesborough the Louisville & Nashville, the Knoxville, Cumberland Gap & Louisville Railroads, the Belt Line and, by traffic arrangements, the Norfolk & Western and the East Tennessee, Virginia & Georgia Roads, with others building.

FOR CIRCULARS AND ALL OTHER INFORMATION ADDRESS

JOHN M. BROOKS, Resident Manager,

MIDDLESBOROUGH, KY.

The Shenandoah Land & Improvement Co.

RESPECTFULLY

Calls the Attention of Manufacturers and Investors

To the SUPERIOR LOCATION and FACILITIES

FOR MANUFACTURING PURPOSES, HOMES AND INVESTMENTS GENERALLY

NOW OFFERED AT

SHENANDOAH,

PAGE COUNTY,

VIRGINIA.



SHENANDOAH'S NEW HOTEL.

LOCATION.

The town is situated on the east bank of the Shenandoah river, in the world renowned Shenandoah valley, the climate and scenery being unexcelled in the most favored sections of the United States. 1,100 feet above sea level; malaria unknown, atmosphere clear and bracing.

MINERALS AND TIMBER.

On both sides of the Shenandoah river, and immediately adjacent to Shenandoah, are immense tracts of land rich in iron, manganese, copper, lead, asbestos, slates, schists, fire-clay, etc., of fine quality.

Vast bodies of timber lands, furnishing in endless quantity the finest oak, hickory, ash, maple, walnut, chestnut, elm and pine for manufacturing and decorative purposes.

RAILROADS.

The Shenandoah Valley Railroad runs directly through Shenandoah, which will be the terminus of the Washington extension. The West Virginia Central Railroad, as projected, will pass through Shenandoah, opening up the immense mineral deposits of the Massanutten Mountains.

PRESENT INDUSTRIES IN OPERATION.

There is a Furnace Company, producing 30,000 tons of foundry and mill iron annually. They also operate a foundry. The Shenandoah Valley Railroad have here their principal machine shops, car shops, blacksmith and boiler shops. There is a brick works and two planing mills.

Improvements Decided Upon and Under Construction.

The Land and Improvement Company are building a large and commodious hotel; also a handsome office building. Plans are fully decided upon and work will soon begin on a water works, electric-light plant, water-power facilities, about one hundred dwellings, besides grading streets and laying sidewalks.

The Furnace Company have completed plans and will at once erect another Furnace and a rolling mill.

The Railroad Company will erect a handsome rough stone passenger station, a large freight house, new shops and a round house—doubling present capacity.

Many individuals are building residences and stores.

INDUCEMENTS TO MANUFACTURERS.

The Shenandoah Land & Improvement Company are prepared to offer inducements to manufacturers to locate here, and will treat most liberally with any such who desire to establish industrial plants.

By special permission in the charter of Shenandoah, all manufacturers who may establish works here are exempted from corporation taxes for five years.

Possessing so many advantages of such varied character, together with the many improvements now fully decided to be established here, there is every reason to believe that, based on a conservative estimate, Shenandoah will have at least 10,000 inhabitants within the next three years.

FOR COPIES OF PROSPECTUS OR FURTHER INFORMATION, ADDRESS

J. F. WHEELWRIGHT, Secretary.

C. POWELL NOLAND, President.

PRINCIPAL OFFICE, SHENANDOAH, PAGE COUNTY, VIRGINIA.

SAVERNAKE,

Rockbridge County,

VIRGINIA.

—* The Latest and Most Attractive Addition to Buena Vista. *

The Phenomenal Success of which New Industrial City has made Necessary Future Extensions on the same line of Valuable Minerals,

WITH UNRIVALLED FACILITIES FOR TRANSPORTATION.

SAVERNAKE adjoins Buena Vista on the southwest; fronts on Shenandoah Valley Railroad and on James River Division of the Chesapeake & Ohio Railway.

High Grade Manganese and Iron Ores to Steel and Iron Trades.

* **SAFETY AND PROFIT TO INVESTORS.** *

Healthy and Picturesque HOMES at Moderate Prices to Lot Buyers.

The Advantages of an Established City, with Churches, Schools and Factories adjoining. Employment for Mechanics and Laborers. Active Trade to the Storekeeper. Consuming Industries, with a Ready Market for product to the Manufacturer. Avenues connecting with those of Buena Vista, to insure Convenient Access, through Street Car Lines, already Projected from that City.

SAVERNAKE

Is laid out in conveniently-sized lots to suit all in Prices and Location.

RESIDENCE LOTS. BUSINESS LOTS. MANUFACTURING SITES.

THE INDUSTRIES already secured, and which will be further announced weekly in the MANUFACTURERS' RECORD, guarantee rapid profits, free from speculative features, to all purchasers.

The LOCH LAIRD ESTATE & MINERAL CO., Limited,
LONDON, ENGLAND.

Of whose property Savernake forms a portion, having already sold a considerable number of lots to investors in London, and being in negotiation with both English and American capitalists for further sales, offer lots in Savernake to the American public, confident that their location will render values at once apparent, and guarantee every effort to sustain and foster this enterprise, both in the United States and England. Maps of Savernake and all particulars of information may be obtained upon application to

Loch Laird Estate & Mineral Co., Limited,

THOMAS DUNLAP, MANAGING DIRECTOR.

Postoffice Address—Triford, Rockbridge Co., Va.

SAVERNAKE, VIRGINIA.

Railroad Station for both Shenandoah Valley Railroad and Chesapeake & Ohio Railway, Loch Laird Station, Va.

The Goshen Land & Improvement Company

OF GOSHEN, VIRGINIA.

Goshen, the Gateway connecting the Virginias.

The Coming Railroad Center.

Goshen fulfilling prophecy in becoming the Great Iron Manufacturing Center.

Surrounded by the wonderful Mineral Springs Belt, where thousands from all over the land congregate during the Summer.

Great Industries located here;

More to follow

Car Works, to manufacture Passenger, Freight and Electric Cars, are now being built.

Works covering 15 acres of ground.

Large Rolling Mill under construction.

Keystone Machine Company's building nearly completed.

Woodcock Iron Works building now under construction.

The Palace Hotel, the finest building in Virginia, under contract to be completed July 1st, 1891.

Industries already secured and under construction guarantees the success of Goshen as a Manufacturing Center.

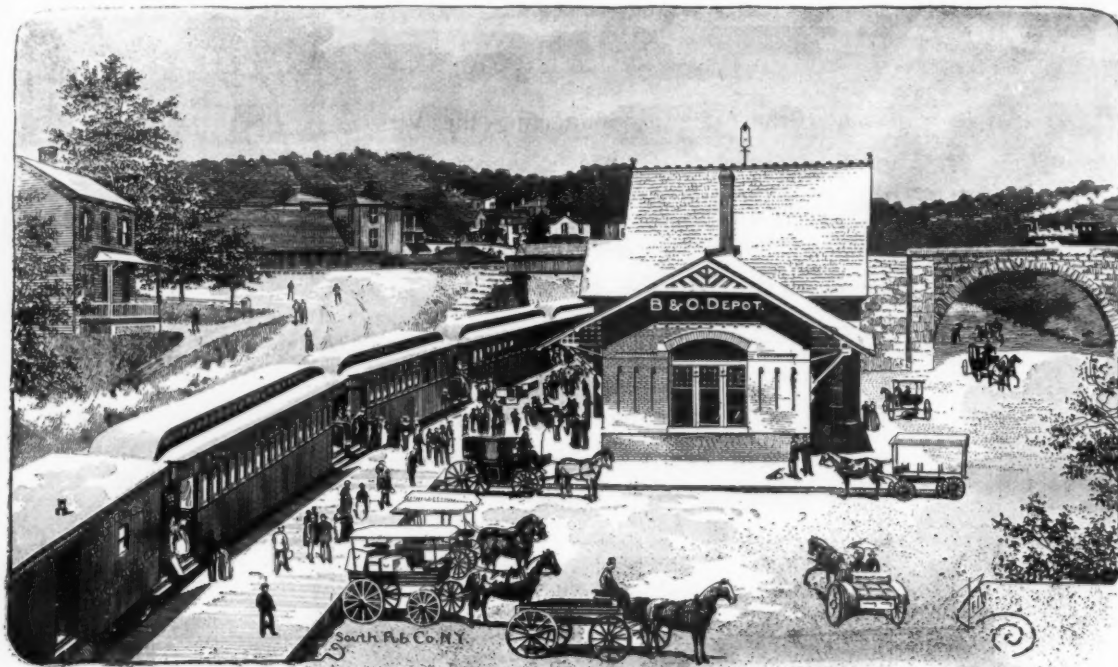
SAFE AS A GOVERNMENT BOND

Are the Shares in the STAUNTON DEVELOPMENT COMPANY, which was organized

NOT TO BOOM, BUT TO UPBUILD.

"The Empress of the Valley."

Enthroned Amid a Score of New Industrial Towns, all of which Must Contribute to Her Prosperity.



Staunton is the established metropolis of the richest area between the Potomac River and the Gulf of Mexico.

Staunton is at the actual center of Virginia's richest ore fields.

Staunton has more paying industries already in operation than any town in the Shenandoah Valley.

Staunton has more money in her banks than any town in the South of equal population.

Staunton has more industries recently secured than any town in Virginia.

Staunton is the healthiest and most delightful place of residence in the United States.

At Staunton, malaria, that curse of so many towns, is entirely unknown.

Staunton is the most famous educational center in the South.

Staunton has more and finer churches than any city of its size on the continent.

Staunton offers cheaper raw material to manufacturers than any town in the South.

Staunton's transportation facilities are unsurpassed.

Staunton will soon have the finest new Hotel in the State, and the Development Company is managed on strictly business principles.

This Company owns 2,200 acres of land in and adjoining Staunton.

A good building lot goes free with every two shares of stock of the Staunton Development Company.

The books of this Company will close on the 20th December, 1890.

Address M. ERSKINE MILLER, President,
STAUNTON, VIRGINIA.

Population 2,500.

Bank, Schools, Churches, Hotel, Water
Works, Splendid Residences, Excellent Society.

Old name of town, and present name of the Postoffice, is Jacksonville, the County Seat of Calhoun,
one of the Richest Mineral and Agricultural Counties in the State.

MANY LARGE INDUSTRIES SOON TO BE LOCATED.

TREDEGAR

STEEL WORKS will include three Furnaces, Rolling Mills, &c., to produce 300 tons of Steel daily, covering every line of manufacture from the ore to the finished Steel. The entire plant, including furnaces, buildings machinery, &c., is under contract. Will employ 3,100 hands.

For particulars address GOLDSMITH B. WEST, General Manager JACKSONVILLE MINING & MANUFACTURING COMPANY, Tredegar (Present Postoffice, Jacksonville), Alabama.

Alabama.

BUY THE STOCK

OF THE

Cedar Grove Industrial Company.

Chartered Under the Laws of West Virginia.

It is a safe and sound investment.

It is a speculation which promises great profits but involves no risk.

It is no acreage boom.

It has ASSETS far beyond its capitalization.

Boom or no boom, Cedar Grove Stock will pay.

It is as safe as a ground rent or a government bond.

Cedar Grove is the Key to the 64 square miles forming the backbone of the great Kanawha Coal Field.

The Company will own 165 acres, forming a compact town site and 1,300 acres of coal land immediately adjacent, estimated to contain 60,000 tons of coal per acre.

Cedar Grove coal has no superior. The markets of the West can't get enough of it to supply the demand.

This demand will create tremendous development in the Kelley Creek basin, the outlet of which this Company will own. The output will be loaded on barges from our two miles of water front, paying our Company "tipple charges."

Cedar Grove has all-the-year-round navigation.

Freight charges two mills per ton per mile.

Factories located at Cedar Grove will be able to get steam coal at 37½ cents a ton.

With its marvelous coal resources, its controlling position, with reference to a large and rich area, its abundant supply of sandstone, brick-clay and fire-clay, pure water, &c., its exceptional transportation facilities and business-like management, the future of Cedar Grove as a solid industrial town is assured.

It is unsurpassed as a location for brick-making and woodworking industries, pulp and paper mills, and for iron industries, as ore can be laid down at a minimum of price on account of empty coal cars available for its transportation from the East.

Cedar Grove stock is offered as a gilt edged investment.

SUBSCRIPTIONS TO THE CAPITAL STOCK.

There will be \$400,000 of the capital stock available for subscription, or 40,000 shares at \$10 each.

Assessments will be as follows: \$1.25 per share when subscription is made, or within ten days thereafter; \$1.25 per share two months from date of subscription; \$1.25 per share six months from date of subscription. There will then be no further assessments until November 1, 1891, and from that time on it is guaranteed that should it be found necessary to make other assessments they shall not exceed 20 per cent. per annum on the stock subscribed.

The policy of the Company will be to limit assessments to actual necessities in meeting deferred payments and in developing the property.

Subscriptions must be made in writing, must state the name and address of the subscriber, and the amount subscribed. No subscription will be accepted for more than 1,000 shares for any one subscriber. For further information call on or address

ROBERT A. WOOLDRIDGE, President,

CHAS. H. GRASTY, Secretary,

ELLIOTT BARD, Treasurer,

Or CHAS. C. TOMPKINS, Vice-President,

Baltimore.

Salem, Va.

The Best Place in the South for Locating
* Great Industries. *

Shendun, Virginia.

The Grottoes Company

Having placed the \$1 500,000 of stock it offered for subscription, and sold 200 of its city lots at an average of \$640 each, is now ready to negotiate for the locating of

* *Good Industrial Plants* *

of many kinds at Shendun, its newly-laid-out city at Grottoes Station of the Shenandoah Valley Railroad. It has large Resources of iron and other ores, brick and other clays, timber, etc., on its own

Great Estate of 30,000 Acres,

And it has ample means at command, enabling it to offer liberal inducements to those seeking new homes for themselves and their industries at one of the best locations in

The Famous Shenandoah Valley of Virginia.

Shendun now has a first-class hotel and a street car line, and many buildings are now in process of construction, and several important industries are being provided for.

Those desiring further information are invited to visit the place, or to a correspondence.

Jed Hotchkiss, President,

Shendun, Va.

REVERSIBLE STEEL & WOOD TRACK HAY CARRIERS
TRADE MARK. A complete outfit. Easy to put up, always reliable and fully warranted to meet the wants of any farmer.

MYERS' FORCE AND LIFT PUMPS
Simple, durable, powerful, easy to operate never affected by frost. Patent GLASS VALVE, will never corrode. Ask your dealer for our goods. Write for catalogue. F. E. MYERS & BRO. ASHLAND, O.

GREATEST IMPROVEMENT OF THE AGE

Maslin's Patent Steam Pump.
Pat. Feb. 12, & Dec. 3, '82.

Cheapest and Best Automatic Steam Vacuum Pump Handling DIRTY and GRITTY LIQUIDS without Wear, Oil or Care. Simple, Economical, Efficient & Durable. Pumping Plants for Contractors, Irrigation, Water Works, Railroads, Mining & General Hydraulic Purposes. Write or call for Circulars. JOHN MASLIN & SON, SOLE MANUFACTURERS, 160-167 1st St., Jersey City, N. J.

COMPLETE STEAM PUMP
10 SIZES FROM \$7 TO \$75
FOR DRIVE WELLS & ETC.

WRITE FOR PRICES AND DESCRIPTIVE CIRCULARS
VAN DUZEN & TIFT
SOLE MAKERS.
CINCINNATI, O.

S. E. CRAWFORD,
NORWALK, OHIO.
MANUFACTURER OF
Rubber Bucket Chain
And Wood Force Pump Supplies.
Correspondence Solicited.

THE COOK WELL CO.
CONTRACTS TAKEN FOR FURNISHING
WATER SUPPLY
COOK'S SYSTEM OF WELLS.
18 YEARS EXPERIENCE IN WELL SINKING
FOR WATER WORKS, RAILROADS,
FACTORIES, BREWERIES ETC.
ARTESIAN WELL PUMPS AND
TUBE WELL SUPPLIES
SEND FOR CATALOGUE OF PATENT WELL MATERIAL

DEAN BROS. STEAM PUMP WORKS.

BOILER FEEDER BREWERS AIR PUMP FIRE PUMP DUPLEX PUMP

PUMPING MACHINERY FOR ALL PURPOSES. **INDIANAPOLIS, IND.** SEND FOR CATALOGUE AND PRICES

BLAKESLEE MFG. CO.
DU QUOIN ILL.
SEND FOR CATALOGUE

STEAM PUMPS.
We have just issued a new illustrated catalogue of our Steam & Jet Pumps. A copy will be mailed free on application.

PUMPS

THE JOHN H. MCGOWAN CO.

42, 44, 46 Central Ave., CINCINNATI, O. Branch House, 1425 E. Main St., RICHMOND, VA.

We manufacture direct acting Duplex and Crank and Fly Wheel Steam Pumps for all services. Brass Founders and manufacturers of Brass and Iron Body goods. Straightway valves, etc. Iron Pipe and Fittings and Mill Supplies. Boiler Feed Pumps a specialty. Address

THE DEMING COMPANY,
(Late Silver & Deming Mfg. Co.)
PUMPS
For Hand and Power.
WELL SUPPLIES AND TOOLS,
SALEM, OHIO.

HYDRAULIC JACKS.
BEST IMPROVEMENTS. MOST STYLES.
Hydraulic Presses, Hydraulic Pumps, Valves & Fittings,
Hydraulic Transfer Jacks for Removing Locomotive Drivers and Trucks.
LEVER PUNCHES and SHEARS.

WATSON & STILLMAN
204, 206, 208 & 210 E. 43rd Street, New York.

LAWRENCE MACHINE CO.
MANUFACTURERS OF
Centrifugal Pumps,
STEAM ENGINES,
General Machinery,
PHOS. BRONZE,
And Composition Pumps and Valves for
Pulp and Paper Mills,
LAWRENCE, MASS.
Send for Catalogue A and Disc'ts.

ALLENTOWN FOUNDRY & MACHINE CO.
ALLENTOWN, PA.
MANUFACTURERS OF THE **IMPROVED EUREKA TURBINE**
FOR ECONOMY OF WATER WITH GREATEST EFFICIENCY
"THE BEST IN THE WORLD"
REPEATED TESTS AT HOLYOKE, MASS. GIVE IT 3 PER CENT GREATER EFFICIENCY THAN ANY OTHER WHEEL TESTED THERE. ITS USE IN MINING DISTRICTS WITH SMALL AMOUNT OF WATER AND HIGH HEAD IS OF THE GREATEST ADVANTAGE. OVER 800 NOW IN USE.
SEND FOR CATALOGUE. RUNNING MILLS, FURNACES, WATER WORKS, FACTORIES, MINES ETC.

THE LAIDLAW & DUNN CO.

STANDARD DUPLEX PUMP AND BOILER FEEDER
STANDARD COMPOUND STEAM PUMP
STANDARD DUPLEX STEAM PUMP
HERO PUMP

PUMPS OF EVERY DESCRIPTION. CINCINNATI, O. SEND FOR CIRCULAR

GEO. F. BLAKE MFG. CO.
BUILDERS OF STEAM AND POWER
Pumping Machinery
111 Federal Street, Boston.
95 and 97 Liberty St., N. Y., 535 Arch St., Philadelphia.

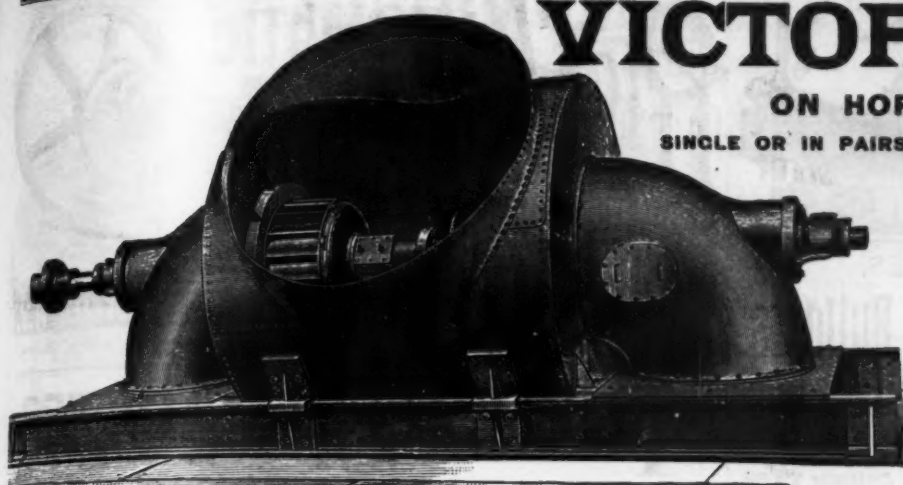
The Baldwinsville Centrifugal Pump.
OLDEST, BEST AND LATEST IMPROVED.
Especially adapted for contractors' use, Pumping Coffin Dams, Sewers, Sand-Pumping, etc.
Irrigating Plants a Specialty. Address for catalogue,
IRVIN VAN WIE, 48 & 50 West St., Syracuse, N. Y.
Established 1861. Removed to Syracuse 1881.

The Improved Smith & Vaile
— SINGLE, DUPLEX AND COMPOUND —
Steam Pumps
FOR EVERY DUTY.

Water-Works Machinery.

The SMITH & VAILE CO.
DAYTON, OHIO, and NEW YORK,
119 LIBERTY STREET.

EASTERN AND SOUTHERN AGENTS:
THOS. K. CAREY & BROS., 26 Light Street, - - BALTIMORE, MD.
G. W. STORER, 149 North Third Street, - - PHILADELPHIA, PA.
D. A. TOMPKINS CO., - - CHARLOTTE, N. C., and ATLANTA, GA.



VICTOR TURBINE

ON HORIZONTAL SHAFT.

SINGLE OR IN PAIRS.

DISPENSING ENTIRELY WITH GEARS.

Actual Test of the VICTOR in Testing Flume, Holyoke, Mass.

Size of Wheel.	Head in Ft.	Horse Power.	Per Ct. Useful Effect.
15-inch	18.06	30.17	.8932
17 1/2-inch	17.96	36.35	.8930
20-inch	18.21	49.00	.8512
23-inch	17.90	68.61	.8514
26-inch	11.85	52.54	.8076
35-inch	17.39	133.19	.8497
40-inch	16.49	148.93	.8253
48-inch	15.51	179.39	.8200

VICTOR WATER WHEELS, UPRIGHT OR HORIZONTAL, FURNISHED ON SHORT NOTICE.

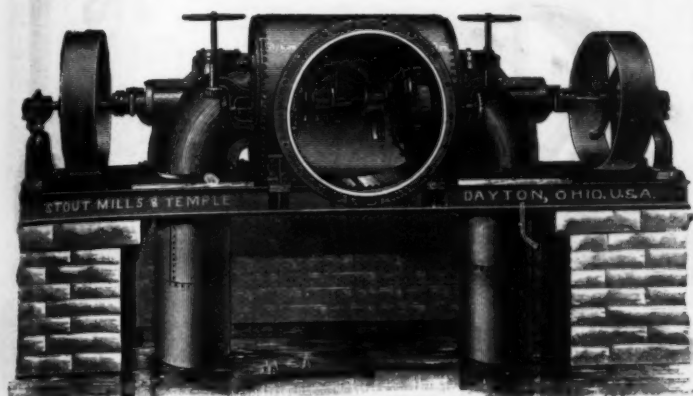
RECENT SOUTHERN PATRONS: Clifton Mfg. Co., Piedmont Mfg. Co., Camperdown Mfg. Co., Whitney Mfg. Co., Peiser Mfg. Co., Euoree Mfg. Co., Henrietta Mills, Pacolet Mfg. Co. and others.

State your requirements and send for catalogue to the

STILWELL & BIERCE MFG. CO.

DAYTON, OHIO, U. S. A.

THE NEW AMERICAN TURBINE WATER WHEEL.



On Vertical or Horizontal Shafts. Unequaled in Power, Efficiency and Durability.

SEND FOR ILLUSTRATED CATALOGUE TO

The Dayton Globe Iron Works Co.

DAYTON, OHIO.

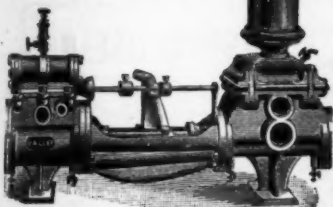
SUCCESSORS TO STOUT MILLS & TEMPLE.

Manufacturers also of Pulp and Paper Mill Machinery, Heavy Shafting, Machine-Cut Gearing, Etc.

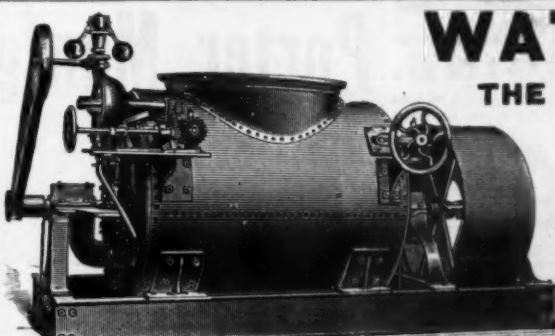
PLANS and ESTIMATES FURNISHED.

STOUT MILLS & TEMPLE, DAYTON, OHIO, U.S.A.

Valley Pumps.



Valley Pump Co., Easthampton, Mass.



WATER WHEELS.

THE JAMES LEFFEL TURBINE

On Horizontal Shaft.

More than 20 varieties of this style built by

THE **JAMES LEFFEL & CO.**

SPRINGFIELD, OHIO, and 110 Liberty Street, N. Y. City.

Send for our Fine Pamphlet and other Information.



ARTESIAN WELL PUMPS.

CAMERON STEAM PUMPS.

PUMPS FOR
BOILER-FEEDING,
MINES,
REFINERIES,
BREWERIES,
TANNERIES,
IRRIGATING,
FIRE PURPOSES,
RAILROADS and
FILLING TANKS,
CRANK and
FLY WHEEL
And VACUUM



SEND FOR
Illustrated Catalogue A.

SIMPLE,
COMPACT,
DURABLE,
EFFICIENT.

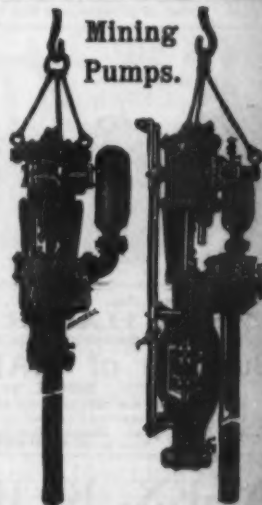
ADAPTED TO
ALL PURPOSES.

NO OUTSIDE
VALVE GEAR.

The A. S. Cameron Steam Pump Works,

PUMPS. Foot of East 23d Street.

NEW YORK.



Mining
Pumps.

Piston Pattern.

Plunger Pattern.



THE BUFFALO STEAM PUMP CO.
BUFFALO, N.Y. — MANUFACTURERS OF
STEAM PUMPS
FOR ALL DUTIES.



H. V. PARTELOW & CO.

Manufacturers of BOATS, CANOES and STEAM LAUNCHES, 424-436 ATLANTIC AVENUE, BOSTON, MASS. Send two two-cent stamps for catalogue.

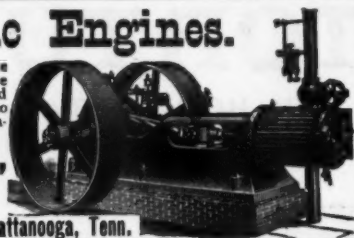
For SOAP MAKERS and BUTCHERS' MACHINERY, Address H. Wm. Dopp & Son, Buffalo, N. Y.

Valley Automatic Engines.

Applicable to any and all uses requiring Close Regulation and Economical use of Steam. They are constructed throughout of selected material and finished in the best possible manner. Guaranteed to equal any of their class extant in Economy, Regulation, Durability and General Efficiency.

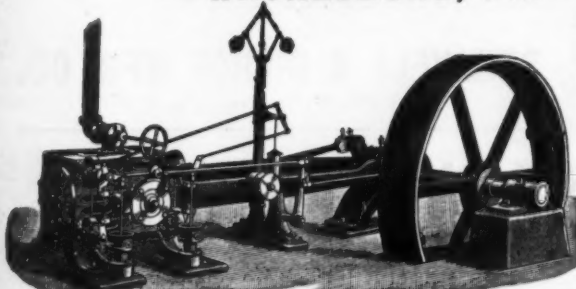
VALLEY IRON WORKS,
MANUFACTURERS,
WILLIAMSPORT, PENNA.

CASEY BOILER MFG. CO., Sales Agents, Chattanooga, Tenn.



ECLIPSE CORLISS ENGINES.

Frick Company, Engineers, Builders,
—WAYNESBORO, PA.—



40 to 1,000 H. P.
Made.

Condensing, Non-Condensing & Compound.
Send for Circular.

Ice-Making and Refrigerating Machinery.
Send or Ice-Machine Circular.

Special Automatic Electric Light Engines, Steam Boilers, Traction and Portable Engines, Saw Mills. Send for our General Catalogue.

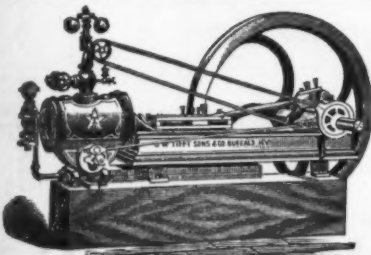
—) FOR THE LOWEST-PRICED FIRST-CLASS (—
ENGINES & BOILERS

ADDRESS

GEO. W. TIFFT, SONS & CO.
BUFFALO, N. Y.

5 to 500 H. P. Special Stock Sizes 5 to 50 H. P., both Stationary and Semi-Portable.

A few good Second-Hand Engines and Boilers are for sale at an astonishingly low figure. Must be sold to make room for stock. Correspondence solicited. Mention this paper.



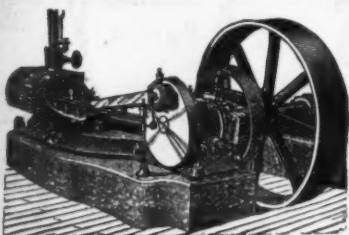
BECK AUTOMATIC ENGINE.

For Electric Light, Flour, Cotton, Woolen and Rolling Mill Service and all other purposes requiring power. Economical in Steam Consumption. Does not race. Speed constant under varying loads and pressure of steam. Simple,

durable in construction. Requires no more space than double disc engines. Contracts



taken for complete steam plants, including boilers and all connections, masonry and erection. All work guaranteed. Send for catalogue and full particulars. Also builders of Portable, Vertical and Stationary Engines. Boilers of all styles, and Saw Mills. Address **TAYLOR MFG. CO., Chambersburg, Pa.**



Russell & Co.
MASSILLON, OHIO.

BUILDERS OF
Automatic Engines,
BOILERS, ETC.

Complete Power Plants Furnished.

SOUTHERN AGENCY:

RUSSELL & CO., 75 S. Forsythe St., Atlanta, Ga.

INCORPORATED 1864. **WM. A. HARRIS STEAM ENGINE CO.**
(Successors to Wm. A. Harris.) PROVIDENCE, R. I.

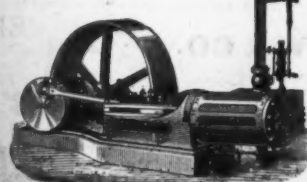
Builders of HARRIS-CORLISS ENGINES,
FROM 20 TO 2,000 HORSE POWER.

These Engines are carefully built of best materials and in different forms, such as Non-Condensing, Condensing and Compound Condensing. Send for copy of **ENGINEERS AND STEAM USERS' MANUAL**, by J. W. HILL, M. E. \$1.25. Mention this paper and send for catalogue. **WM. A. HARRIS, Pres. & Treas.** The D. A. TOMPKINS CO., CHARLOTTE, N. C., Southern Agents.

ALEX. K. RARIG & CO.

COLUMBUS OHIO.

MANUFACTURERS OF
Blast Furnace Plants,
AUTOMATIC CUT-OFF ENGINES,
HOISTING ENGINES,
Boilers, Boiler Plate Punches,
ROLLS AND SHEARS,
Clay-Working Machinery,
Steam Sewer Pipe Presses.



Socket Pipe, Tile and Fire-Proof Dies, Wet and Dry Pans for Grinding and Tempering Clay for Sewer Pipe, Terra Cotta, Brick and Tile. We furnish complete outfits for Sewer Pipe and Brick Plants. Write for catalogue. Correspondence solicited. Mention this paper.



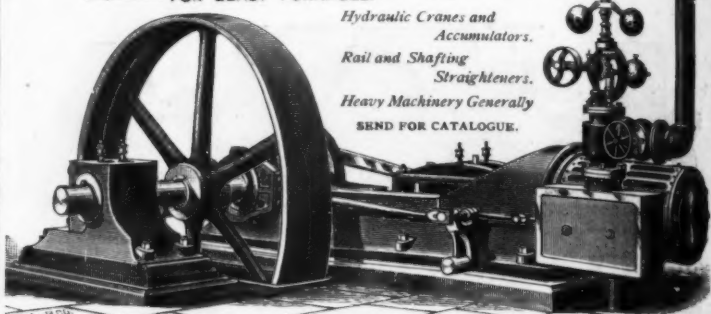
THE RICE AUTOMATIC
GUARANTEED ECONOMY.
REGULATION-DURABILITY.
8 to 300 H.P. SIMPLICITY-SELF-CONTAINED.
PAIR & TANDEM-COMPOUNDS.
THE JOHN T. NOYE MFG CO. BUFFALO, N.Y.
Fairbanks, Morse & Co., Western Representatives, Chicago, St. Louis, Kansas City, Omaha, Denver, St. Paul.

The Porter-Hamilton Engine.

FOR LARGE POWERS.

The Heaviest Engine in America.

THE HAMILTON BLOWING ENGINE
FOR BLAST FURNACES.

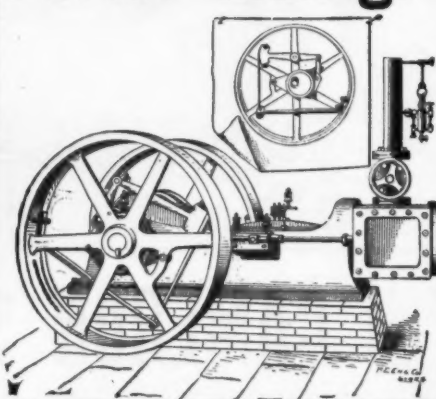


WILLIAM TOD & CO.

YOUNGSTOWN, OHIO.

Porter Manfg. Co., Limited.

SYRACUSE, N. Y.



Builders of Automatic and Plain Slide Valve Engines, Portable and Stationary Boilers, Stand Pipes for Water Works. Only Manufacturers of the New ECONOMIZER PORTABLE BOILER.

Complete Motive Power PLANTS FURNISHED.
THE HEWES & PHILLIPS
Newark, N.J.
IRON WORKS
Improved CORLISS ENGINES.
High Pressure.
Condensing Compound.
TUBULAR BOILERS.
HEAVY FLY WHEELS.
A SPECIALTY.
IN SIZES UP TO 36 FT. DIA. BY 10 FT. FACE.
Manning Patent Vertical Boilers.

SKINNER ENGINE CO., ERIE, PA.
OVER 3400 IN USE
Manufacturers of PORTABLE & STATIONARY
ENGINES & BOILERS
SEND FOR CATALOGUE.
MORTON, REED & CO., Agts., Baltimore, Md.
NEW YORK and NEW ENGLAND OFFICE:
C. R. VINCENT & CO., 15 Cortlandt St., N. Y.

336, 338, 340, 342
NORTH ST.

The WARFIELD MANUFACTURING CO.

BALTIMORE,
MD.

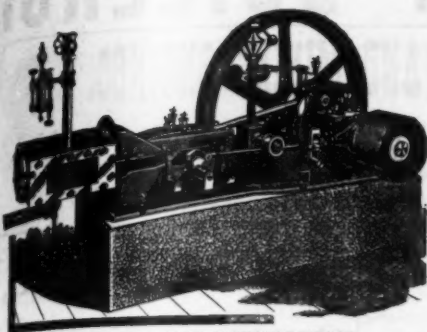
COMPLETE PLANTS FOR THE

Generation and Transmission

STEAM POWER.

GENERAL MACHINE WORK.

Machinery Designed and Constructed for
Special Purposes.



THE WARFIELD-PILLINGS AUTOMATIC ENGINE.

Class A.—The Warfield-Pillings Automatic Engine. A high-grade Engine, (for high or medium speed,) for electric light and other purposes.
Class B.—The Warfield Throttling Governor Engine—Horizontal and Vertical.

OUR MACHINERY IS CLASSED AND CATALOGUED AS FOLLOWS:

Class C.—Steam Boilers—Stationary Tubular, Upright Tubular.
Class D.—Shafting, Hangers, Pulleys, Couplings, &c.
Class E.—Fruit, Vegetable and Oyster Packers' Machinery—most complete line on the market.

Any of the above Catalogues mailed upon application.



THROTTLING GOVERNOR ENGINE, HORIZONTAL.

Class F.—Can-Making and Sheet-Metal Machinery.
Class G.—The Warfield-Pillings Patent Water Motor, Ceiling, Column and Exhaust Fans, complete Ventilating Apparatus, Patent Electric Motors.

TALBOTT & SONS, RICHMOND, VA.

MANUFACTURERS OF

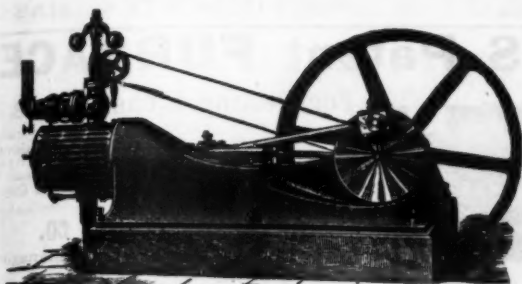
Engines and Boilers,

SAW, CORN AND WHEAT MILLS,

ROPE FEED for SAW MILLS, TIMBER QUAGES, graduated by 1-16 of an inch. Shafting, Hangers and Pulleys,

Cotton-Seed Oil Mill Machinery,

MODERN COTTON GINNERIES.



BRANCH OFFICES:

MACON, GA.

CHARLOTTE, N. C.

ESTIMATES AND CONTRACTS MADE FOR COMPLETE OUTFITS,
Embracing the Latest and Best Improvement.

GASOLINE and GAS ENGINES

Our new Engines are hustlers. A 6x7 inch Engine, now running 100 feet of shafting. Boring Mills, Planers, Lathes, Drill Presses and Milling Machines for 20 Machinists, on 6 gal. Gasoline per day, costing only 60 cts. Write for information. Mention this paper.

Van Dusen Gas & Gasoline Engine Co.
CINCINNATI, OHIO.



OILLESS BEARINGS.

They will run for years without oil. Perfectly clean. No cutting or danger of fire from overheating. Send for New Circular of interest to users of Loose Pulleys.

North American Metal Co., 37 Blocker St., N.Y. City.

"THE KRIEBEL" NEW MODEL STEAM ENGINES.

Single and Double Cylinder STATIONARY, SEMI-PORTABLE, MARINE and HOISTING ENGINES. STEEL BOILERS of all styles and sizes. AUTOMATIC and HORIZONTAL THROTTLING ENGINES. GOVERNORS, INJECTORS, STEAM PUMPS, ETC.
Send for Catalogue, stating what you wish prices on.
RICE & WHITACRE MFG. CO.
47 & 49 N. Canal Street, CHICAGO, ILL.



CLEVELAND AND HARDWICK ENGINE WORKS



MANUFACTURERS OF STEAM ENGINES AND BOILERS.
ERIE PENN.

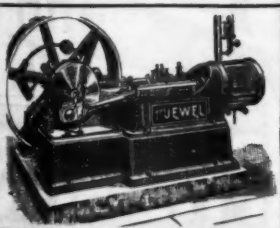


Strong, Well Built, Serviceable
12 TO 80
Horse Power.

STEAM ENGINES

Adapted to Heavy, Continuous Work. Every Engine tested under full load. For descriptive circulars, address

Chandler & Taylor, Indianapolis, Ind.



THE JEWELL AUTOMATIC

Balance Valve, Self-Contained

For any and all uses where economy in steam and close regulation is required.

Also a full line of Vertical Engines and Boilers, 2 to 10 H. P.

C. H. DUTTON & CO.

KALAMAZOO, MICH.

SHERWOOD MFG. CO.



THE CELEBRATED UNION INJECTOR.

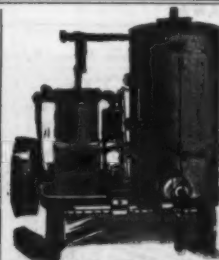
Only One Lever to Operate.
The Eagle Ejector.

The Best Jet Pump Made.

Felthousen's Cylinder Oil Pumps; Improved Gauge Cocks; Adjustable Spring Plug Scraper; Improved Ratchet Drills; Combination Pipe and Nut Wrench; Compression Grease Cups.
Buffalo Glass Oil Cups & Lubricators
Pop Valves; Steam and Water Gauges; Single Bell and Chime Steam Whistles; Piston and Valve Rod Packing; Supplies all kinds for Engines and Boilers.

SHERWOOD MFG. CO.

Sole Manufacturers, BUFFALO, N. Y.



Acme Automatic Engine,

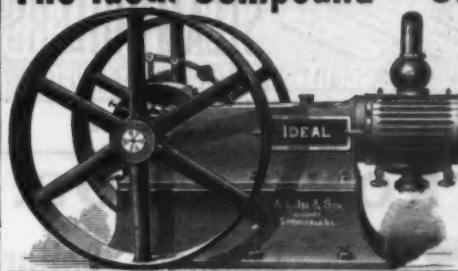
With BRYANT'S Patent Safety Boiler.

Sizes 1, 2 and 4 H. P. Fuel, Kerosene (Coal) Oil, 120° to 220° fire test. No dust, ashes, or smoke. No Skilled Engineer required. "Breaks" Tests show that 34 gal. fuel will deliver a full H. P. on belt for 24 hours, in the case of our 1 H. P. Engine and Boiler.

Rochester Machine Tool Works,
BUILDERS, ROCHESTER, N. Y.

SEND FOR CATALOGUE.

The Ideal Compound and Single Expansion ENGINES.



Simplicity, Perfection, Unequalled Regulation, Self-Oiling.

A. L. IDE & SON,
MANUFACTURERS,
SPRINGFIELD, ILL.

Offices—Chicago, 59 Lake St.; St. Louis 313 Olive St.; Kansas City 1221 Union St.

St. Louis Iron & Machine Works,

Capital Stock, \$200,000 Paid Up.

ST. LOUIS, MO.

Established 1854.

MANUFACTURERS OF

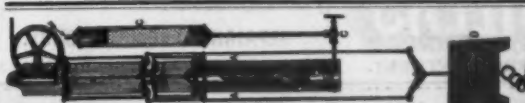
Incorporated 1875.

Corliss, Steamboat and Slide Valve Engines,

COTTON COMPRESSES, PLATE GLASS MACHINERY,

HOISTING TRAVELERS,

Mining Machinery, Dry Clay Brick Machinery, &c.



Without any question the Greatest
FUEL SAVER
of any Regulator.

Hallock Damper Regulator.

UPWARDS OF 2,000 NOW IN USE.
Keeps a steady pressure of steam. Saves fuel and gives regularity of power. Simple in construction. It does not get out of order. Uses no water. Requires no tank. Will outlive any boiler. Every machine warranted.

AUSTIN ADAMS, Sole Agent, 40 Dey Street, New York.

Regulator can be taken apart, cleaned and put together in five minutes.

THE J. C. McNEIL CO.

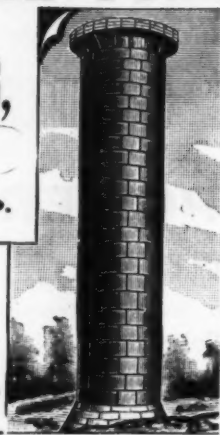
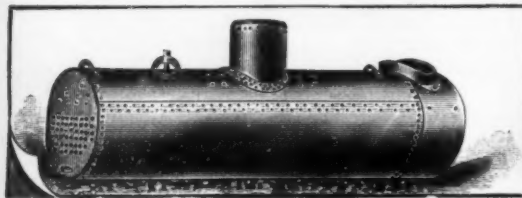
BUILDERS OF

Standpipes, Boilers and Tanks,

OF EVERY DESCRIPTION.

Write for Prices.

AKRON, OHIO.



ALUMINUM METAL STEAM BOILERS.

The time is coming when this will be a familiar heading to a steam boiler "add." But at present there is nothing better than a STEAM BOILER well made of MILD STEEL. Do not forget that we can make you a boiler with ECLIPSE MANHOLES, bottom in one plate, in fact, a modern one; so do not think that we are not worth writing to about it. Send us your specifications.

Respectfully,

FULTON STEAM BOILER WORKS,

RICHMOND, INDIANA.

STEAM BOILERS.

HOISTING AND MINING ENGINES.

EDWARD KENDALL & SONS,

MANUFACTURERS,

CAMBRIDGEPORT, MASS.

Miles' Patent Downward Tubular Boiler,
Locomotive Tubular Boilers,
Horizontal Tubular Boilers,
Upright Boilers,

Miles' Patent Oil Stills, Agitators,
Miles' Patent Tubular Water Heater,
Drying Pans, Fish Stills,

Miles' Patent Pulp Stills,
Ships' Water Tanks,
Rotary Dryers, Furnaces, Sand Heaters,
Galvanizing Kettles,

Special Machinery for Dishing Heads
of Large Diameter,
Asphalt Paving Tools,

Plans of Miles' Patent Boiler and Still
Settings, &c.

GEORGE MILES,

Steam Boilers

AND

* Plate Iron Work *

OF ALL KINDS.

SOUTH BOSTON, MASS.

JARVIS Patent FURNACE

For Setting Steam Boilers.

Economy of Fuel, with increased capacity of Steam
Power. Like the Siemens Process of Making
Steel, it utilizes the waste gases with hot air on top of
the fire. Will burn all kinds of waste fuel without a
blast, including Slack Coal, Sawdust, Logwood Chips,
&c. Send for Circulars.

JARVIS ENGINEERING CO.

J. N. PRATT, Treas. and Gen'l Manager.

61 Oliver Street, BOSTON, MASS.

SOUTHERN REFERENCES:

Eagle & Phenix Mfg. Company, Columbus, Ga.
Anniston Mfg. Co., Anniston, Ala.
P. King Mfg. Co., Augusta, Ga.
Rose Mining Co., Charleston, S. C.
Maryland Pavement Co., Baltimore, Md.
Brush Electric Light Co., Baltimore, Md.
Ettrick, Matoaca and Battersea Mfg. Co's.,
Petersburg, Va.
Rasin Fertilizing Co., Baltimore, Md.
Tanner & Delaney Engine Co., Richmond, Va.
Kibler Mills, Augusta, Ga.

Graniteville Mfg. Co., Graniteville, S. C.
Charleston Bagging Co., Charleston, S. C.
P. H. Mayo & Bros., Richmond, Va.
Phosphate Mining Co., Beaufort, S. C.
Brush Swan Electric Light Co., Norfolk, Va.
Columbus Ice & Refrigerator Co., Columbus,
Ga.
Lenoir Manufacturing Co., Lenoir, East Ten-
nessee.
Vance Mill, Graniteville, S. C.
Charleston Electric Light Co., Charleston, S. C.

SEND FOR THIS BOOK
FREE ON APPLICATION.

BABCOCK & WILCOX CO. WATER TUBE
ST. N.Y.
107 HOPE ST.
GLASGOW, SCOTLAND.

30 CORTLANDT ST. N.Y.

BRANCH OFFICES
ALBANY, N.Y. CHICAGO, ILL. CINCINNATI, OH. CLEVELAND, OH. DETROIT, MICH. INDIANAPOLIS, IND. KANSAS CITY, MO. LANSING, MICH. PITTSBURGH, PA. RICHMOND, VA. ST. LOUIS, MO. ST. PAUL, MINN. WASHINGTON, D.C. YONKON, N.Y.

MANUFACTORIES IN UNITED STATES, SCOTLAND, FRANCE, GERMANY & AUSTRIA.

Awarded the Grand Prize at late Paris Exposition.

ARMSTRONG BROS.

MANUFACTURERS OF

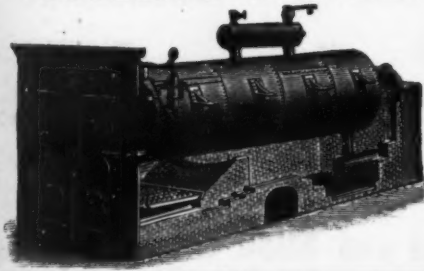
Engines and Boilers

ALL SIZES AND KINDS.

Output Last Year 1473 Engines and Boilers.

Have large stock New Standard Boilers,
and also large stock Second-hand
Engines and Boilers, all sizes and
kinds. Will dispose of at a bar-
gain. For Circulars address

ARMSTRONG BROS., SPRINGFIELD, OHIO.



STATIONARY MARINE

Eagle Boiler Works

DAN SKEA & CO., Prop's.

Boiler Makers and Sheet-Iron Workers.

REPAIRING PROMPTLY DONE.

140, 142 and 144 FRONT STREET.

MEMPHIS, TENN.

The Tudor Boiler Manufacturing Co.

Steam Boiler and Tank Makers

OFFICE, 242 E. Pearl St. (opp. Pittsburg, Cincinnati & St. Louis Ry.), CINCINNATI, O.
SECOND-HAND BOILERS ALWAYS ON HAND.

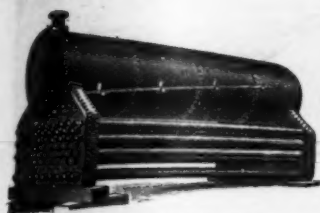


Wm. Baragwanath & Son

FEED WATER HEATING

PURIFYING APPARATUS

48-50 & 52
W. Division St.
CHICAGO
ILL.

HEINE SAFETY BOILER CO.
PATENT
Safety Water-Tube
Steam Boilers.
ECONOMY IN FUEL AND SPACE.
FREEDOM FROM SCALING.
POSITIVE CIRCULATION.

 Equally adapted for Power or Heating Purposes,
 for Clear or Muddy Water, and any kind
 of Fuel. Send for Circular J to

HEINE SAFETY BOILER CO., 706, 707 and 708
ST. LOUIS, MO., Bank of Commerce Building.

OR TO OUR AGENTS:

Rendon Iron Works,	San Francisco, Cal.	Van Zile, McCormack & Co.,	Albany, N. Y.
Stearns, Roger & Co., 3 Duff Block,	Denver, Col.	Jas. H. Harris, 82 Madison Street,	Chicago, Ill.
Is. K. Rugg & Co., 107 W. Second St.	Cincinnati, O.	L. Metesser, 34 St. Charles St.,	New Orleans, La.
T. C. Gooch, 445 W. Main St.,	Louisville, Ky.	R. M. Huston, 45 Broadway,	New York.
		English, Morse & Co.,	Kansas City, Mo.
		Seeger & Guernsey Co.,	City of Mexico, Mex.

THE KENNEDY INJECTOR

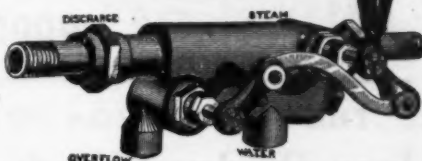
Most Durable, Most Economical, Simplest and Best on the Market.

Warranted to Lift Water 25 feet.

MANUFACTURED BY

The Forest City Brass Works,

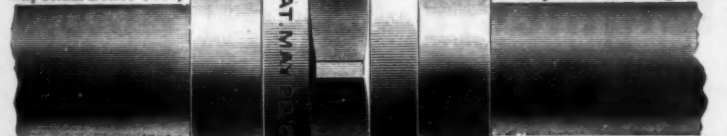
90 to 96 Marwin St. 2 to 38 Leonard St.

CLEVELAND, O.**THE CURTIS****PATENT RETURN STEAM TRAP.**
 IT is noiseless, positive, rapid, will return all condensation back into the
 boiler, and works equally well in connection with reduced pressure or
 exhaust steam also when the return is below the water line of the boiler.

THE CURTIS REGULATOR COMPANY,
No. 160 BEVERLY ST., BOSTON, MASS.

GENERAL AGENCIES.

 NEW YORK, 109 Liberty st. CHICAGO, 218 Lake st.
 PHILADELPHIA, 2035 N. Front st.
 MINNEAPOLIS, 210 S. Third st.
The Union Check Valve.
 All Dealers who make a first-class
 Every Steam Boiler User,

 Check Valve a factor in their trade,
 Every Practical Engineer,

 Every Builder or Owner of
 Steam and Hot Water Radiators

 Buildings being heated by
 should secure a description of this

 Wonderfully Effective Appliance. Descriptive Circulars by mail. Correspondence solicited.
MESSINGER VALVE COMPANY, 370 ATLANTIC AVENUE, BOSTON, MASS.
BLAST FURNACES,
ROLLING MILLS,
STEEL WORKS,
MINES, ETC.,
= ETC. =
William R. Mollack & Co.
OIL WELLS,
REFINERIES,
ELECTRIC LIGHT PLANTS
= WATER WORKS, ETC.,
= ETC. =
**CHICKASAW IRON WORKS,****JOHN E. RANDLE & CO., Prop'rs,****MEMPHIS, TENN.**

MANUFACTURERS OF

Architectural Iron Work,**IRON AND BRASS CASTINGS.****LOCOMOTIVES** for Saw Mill Tramways, Log and Lumber Trucks.**WROUGHT IRON WORK.****ATLAS ENGINES AND BOILERS.**

Saw Mills, Cotton Presses, Shafting, Couplings, Pulleys, &c.

MACHINERY SUPPLIES AND REPAIRS.**LUDLOW VALVE MFG. CO.**

Office and Works: 938 to 954 River St., and 67 to 83 Vall Ave., Troy, N. Y.

VALVES
 Double and Single Gate, 1/2 inch to 48
 inch.; outside and inside Screens,
 Indicators, etc., for Gas,
 Water, Steam, Oil.
SEND FOR CIRCULAR.


Also Fire Hydrants, Yard and Wash Hydrants, Check and Foot Valves.

The LUNKENHEIMER BRASS MFG. CO.**CINCINNATI, OHIO, U. S. A.**
 This Cat Changes Weekly. Send for July, 1890, Catalogue, con-
 taining complete description of

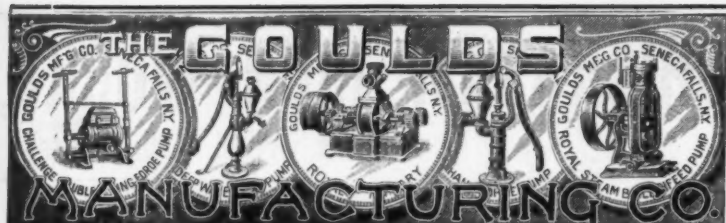
Heavy Regrinding GLOBE VALVES,
Check Valves, Gate Valves,
Lever Throttle Valves,
Pop Safety Valves, Improved
Glass Oil Cups, Automatic
Sight Feed Lubricators,
Grease Cups, &c.

For Sale by All Leading Jobbers throughout the United States.



Horizontal Regrinding Check Valve.

Advertise in the MANUFACTURERS' RECORD.
Litofuge.
is the best boiler compound.
LITOFUGE MANUF'G CO. 62 JOHN ST. NEW-YORK.



Send for new No. 14 catalogue 15-25 Ovid street, Seneca Falls, N. Y., and to Barclay st., New York. GENERAL AGENTS: Goulds & Caldwell Co., Chicago, Ill.; N. O. Nelson Mfg. Co., St. Louis, Mo.

THE CANTON STEAM PUMP CO.
CANTON, O.
MANUFACTURERS OF
DUPLUX PUMPING MACHINERY.
FOR BOILER FEEDING AND GENERAL PURPOSES.
NEW DESIGNS AND IMPROVEMENTS.
THE MILLER
WRITE FOR CATALOGUE AND DISCOUNTS.

JULIAN KENNEDY,

Consulting and Contracting Engineer,

HAMILTON BUILDING, PITTSBURGH, PA.

Blast Furnaces, Bessemer and Open Hearth Steel Works, Rolling Mills, Steam and Hydraulic Machinery, &c.

BRANCH OFFICE OF THE LATROBE STEEL WORKS.

THE BOUGHEN ENGINEERING CO.
Cincinnati, O.
ENGINEERS & CONTRACTORS
For STEAM & WATER WORKS & PLANTS
Correspondence solicited.

Engines and Boilers

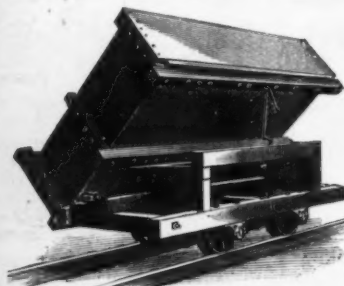
From 1 to 500 horse-power; Portable and Stationary, Horizontal and Vertical. Boilers of plain tubular type, locomotive fire-box pattern, vertical and two-flue, steel or iron, as desired. Engines, Plain Slide Valve or Automatic Cut-Off. Send for catalogue, giving exact requirements, that you may obtain our estimate. Freight paid your station if desired.

W. E. DREW, Agent.

S. C. FORSAITH MACHINE CO. Machinists and General Machinery Dealers, Manchester, N. H.

DREDGES & SHOVELS

Drainage and Irrigation
Filling Land
Levee Work
Harbor Work, etc.
ADDRESS: BUCYRUS, OHIO
RAILROADS
Contract Work
Shipping Coal
Brick Yards
Highways
BUCYRUS STEAM SHOVEL AND DREDGE CO. BUCYRUS, OHIO



THE Corey Car & Mfg. Co.

Manufacturers of Every Description of

Dumping and Mining Cars

IN WOOD, IRON AND STEEL.

Portable Track and Switches,

301 & 303 Phenix Building,

CHICAGO, ILL.

WEBSTER MFG. CO.,

Successors to WEBSTER & COMSTOCK MFG. CO.

MANUFACTURERS OF
MACDONALD FRICTION CLUTCHES,
Shafting, Pulleys, Etc.

FOUNDERS AND GENERAL MACHINISTS.

COTTON, RUBBER AND LEATHER

Coker-Motcalf Power Grain Shovel.

BELTING.



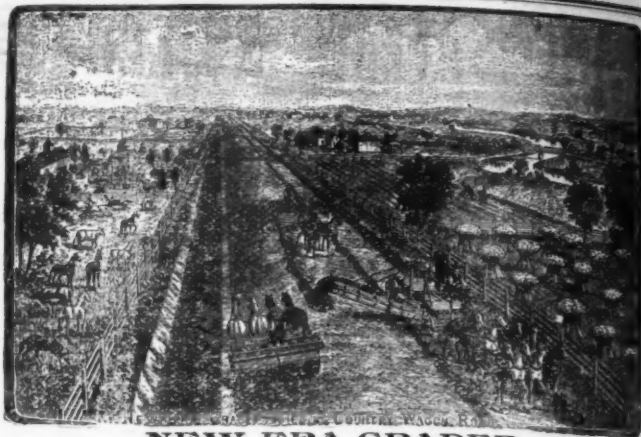
New Improved Conveyor Coupling, so arranged that by taking out bolt any desired section may be removed.



"HERCULES" Steel Scoop.



PATENTED APR. 27-1893.
SPIRAL STEEL CONVEYOR.



NEW ERA GRADER.

For building Country Roads will grade 1 mile of road in 3 days, with 6 teams and 3 men, at an expense for labor not exceeding 35 cents per rod. In Railway grading, or Ditch building, guaranteed capable of placing in embankment 1,000 to 1,500 cubic yards of earth in 10 hours, or loading 600 to 800 wagons in same time.

For catalogue and information, address

F. C. AUSTIN MANUFACTURING CO., CHICAGO, ILL.



WYCKOFF PIPE CO.

WILLIAMSPORT, PA.

Manufacturers of

WOODEN WATER PIPE.

We make the best in the market and at prices that defy competition. Write us for catalogue and prices.

THE PITTSBURGH BRIDGE COMPANY,
Iron Bridges, Viaducts and Buildings

R. MERYDITH, Agent at Chattanooga, Tenn.

POTOMAC BRIDGE WORKS,

FREDERICK CITY, MD.

BRIDGE ENGINEER and CONTRACTOR

Iron and Steel Bridges, Roofs, Buildings, Masonry and Pile Foundations. Contracts taken for Substructure and Superstructure Entire.

LEWIS J. MILLER,
Philadelphia, Pa.

MILLER & BIERCE,

WILL W. BIERCE,
Memphis, Tenn.

Engineers and Contractors



Sole Agents for

Lewis Miller's Improved Steam and Hydraulic Cotton Compress,

(Lewis Miller's and John F. Taylor's Patents.)

The most powerful, economical, and the fastest working Compress built. The only Compress in the world that will load cars and vessels to their full tonnage.

Also Agents and Manufacturers of Steam Engines, Water Engines, Pumps, Boilers, and Heavy Machinery in General.

OFFICES:

PHILADELPHIA, PA., { ROOMS 707 & 710 GRAND BLDG. } MEMPHIS, TENN., { ROOM 12, CHAMBER STREET. }

Southern Railroads.

PRESIDENT KIMBALL'S REPORT.

Growing Prosperity of the Norfolk & Western Railroad.

The financial condition of the Norfolk & Western Railroad, its acquisitions by purchase, its plans for further extension and its prospects for increased traffic and earnings, are the subjects discussed in President F. J. Kimball's report to the stockholders.

The Shenandoah Valley Railroad, acquired October 1, 1890, extends from Roanoke, Va., to Hagerstown, Md., a distance of 247 miles, exclusive of 30 miles of sidings. Provision has been made for the construction of a branch line 70 miles long to a point on the Potomac river opposite Washington which will cost \$2,000,000, and for a branch into Washington with terminal facilities that will cost \$500,000. The Shenandoah Road is laid with steel rails on a good road-bed, and, with the exception of a number of wooden trestles which will be replaced by permanent structures, is in excellent condition.

The business along the Shenandoah Valley line has increased greatly within a short time, although development is in its infancy. Since 1883, when the Norfolk & Western reached the Pocahontas coal field, a remarkable industrial development has extended throughout Southwest Virginia, and latterly northward over the Shenandoah Valley line, and there is every reason to expect that the revenue from the latter will soon equal that of any other part of the system, for its gross earnings for the current year (the last two months estimated) have been about \$6,000 per mile. This newly-acquired line secures permanently to the system close and direct relations with the manufacturing districts of Pennsylvania and Maryland and with New England. The valley through which it passes is famous for its agricultural and mineral resources, similar to those of the great valley of Virginia traversed by the Norfolk & Western between Roanoke and Bristol. The Shenandoah Valley now connects with the Pennsylvania Railroad system at Hagerstown, Md., and when the Washington extension is completed, direct connection will be made with the Pennsylvania Railroad. The report concludes with the following paragraph:

"Including the Shenandoah Valley Road, your company has now in operation about 1,100 miles of railroad, the greater part of which is through a section of country which, in the extent and variety of its mineral resources, cannot be surpassed, and is capable of indefinite development. Upon your lines there are now in course of construction, under contract, or have been completed during the present year, by divers parties and companies, 12 blast furnaces, 7 rolling mills, 29 woodworking establishments, 23 foundry and machine works, 82 other industries, 2,200 coke ovens, 5 coal mines, 34 iron mines and 33 hotels. The operation of these new industries when completed must necessarily largely increase your company's traffic and revenue."

The Piedmont Air Line.

The extent of country traversed by the Richmond & Danville system, its unlimited natural resources and their great diversity, the grandeur of its mountain scenery, the beauty and salubrity of its Piedmont district, the opportunities these afford for profitable investments, for manufactures and for agriculture, were succinctly set forth in a beautifully illustrated descriptive paper prepared by a special writer sent over the line by the Forum Publishing Co.,

and published in the Commercial Forum of October, 1890.

A reprint of this excellent and most trustworthy article has been received from Mr. Jas. L. Taylor, the popular energetic and enterprising general passenger agent of the Richmond & Danville Co. Accompanying it is the Piedmont Air Line calendar for 1891, which is chastely ornamented with a photogravure picture of the Vassar Rowing Club in their boat on the river, and the group of college buildings for an appropriate background.

To all seeking information about the South this carefully and honestly prepared descriptive article will be invaluable, for it gives with brevity and clearness the chief features of the extensive territory within the six great Southern Commonwealths traversed by the Richmond & Danville system, and also notes for the benefit of tourists and pleasure-seekers some of the chief attractions of the route.

Seaboard Air Line System.

The Seaboard Air Line system, which now extends from Portsmouth, Va., to Abbeville, S. C., and which by October 1, 1891, will, it is confidently expected, be running through trains between Portsmouth and Atlanta, Ga., is composed of the following roads, viz.:

	Miles.
Seaboard & Roanoke.....	80
Roanoke & Tar River.....	36
Raleigh & Gaston.....	97
Louisburg Branch.....	10
Durham & Northern.....	44
Raleigh & Augusta.....	98
Pittsboro Branch.....	10
Carthage Branch.....	11
Gibson Branch.....	10
Carolina Central.....	267
Georgia, Carolina & Northern.....	268
Total.....	931

All these roads are in full operation except the last named, over which trains now run as far south as Abbeville, S. C. The grade from Abbeville to Athens, Ga., is finished and ready for the ties, and a very material portion of the work between the latter place and Atlanta is finished.

The country between Portsmouth and Monroe, North Carolina, which latter is the starting point of the Georgia, Carolina & Northern, has been greatly benefited by this system, as have Sanford, Henderson, Kittrell, Raleigh and many other towns. Southern Pines, which a few years since was a pine forest, has a village of nearly 150 houses and several hotels, and has a reputation surpassed by none as a resort for people afflicted with throat and lung troubles, with rheumatism, or with malarial or nervous disorders. A few miles back from it are Jackson Springs, whose waters are a specific for diseases of the kidneys. A hotel now under construction there will soon be completed. The principal products of the country bordering the trunk line between Portsmouth and Monroe are pine and oak lumber, bright leaf tobacco, cotton, corn, wheat, oats and hay, peaches, grapes and small truck of many kinds.

Leaving Monroe, the first place of importance in South Carolina is Chester, a town of much business activity and of considerable wealth, and in which, of late years, a number of flourishing manufactories have been started. Next in order is Clinton, a sizeable town and the trading place of many well-to-do farmers. Between these two cities several new villages have been started at convenient spots on the line, where stores and dwelling-houses are going up rapidly, and from all of which many bales of cotton have been shipped this season. Greenwood, the next town, is in the midst of a very rich farm country, which continues to some distance below Abbeville. The natural resources of the entire region that will be traversed by this railroad between Monroe and Atlanta are great enough to assure a heavy freight business in both directions as soon as the road shall be completed.

Railroad Construction

Argenta, Ark.—Dummy Line.—It is stated that W. H. Wright will probably change the Argenta Street Railway to a dummy line.

Atlanta, Ga.—Railroad.—A bill has been introduced in the legislature incorporating the Alabama Eastern Railroad Co.

Atlanta, Ga.—Railroad.—L. E. O'Keefe, secretary and treasurer of the Atlanta & Selma Air Line Railway Co., writes that a second survey has been completed for the projected road from Atlanta to Selma, Ala., and right of way has been secured, but no financial arrangements to build the line have been made as yet.

Austin, Texas.—Railroad.—The city council has decided to build the railroad previously reported as to be constructed to the site of the dam by George W. Brackenridge. It is to be standard-gauge, with steel rails, and is estimated to cost \$48,600.

Baltimore, Md.—Electrical Railroad.—The Union Passenger Railway Co. has secured control of the Baltimore, Catonsville & Ellicott's Mills Passenger Railway and intends introducing some method of rapid transit. The electric system will probably be adopted.

Bedford City, Va.—Electrical Railroad.—The co-struction of an electrical railroad from Bedford City to the Peaks of Otter is proposed. The Bedford City Land & Improvement Co. can give information when anything is done.

Beeville, Texas.—Railroad.—H. B. Newbury, of Lagarto, is endeavoring to organize a company to build a railroad from Beeville via Lagarto to some desirable point on the Rio Grande river.

Bennettsville, S. C.—Railroad.—The Bennettsville & Gibson Station Railroad Co. has applied to the legislature for a charter.

Bluefield, W. Va.—Railroad.—The Norfolk & Western Railroad Co. (office, Roanoke, Va.) is reported as to build a railroad from its main line at Twelve Pole river, in Logan county, through Boone, Wyoming and Mercer counties, striking the main line again near Bluefield. The estimated distance is over 250 miles.

Branchville, S. C.—Railroad.—The Branchville & Bowman Railroad Co. has applied to the legislature for a charter.

Bristol, Tenn.—Railroad.—An election will be held in Bristol, Tenn., and in Bristol, Va., on January 10 to consider the subscription to the stock of the Danville & East Tennessee Railroad of \$60,000 by the former and \$100,000 by the last named town.

Brunswick, Ga.—Railroad.—The Brunswick & Northern Railroad Co. has applied to the legislature for a charter.

Charleston, S. C.—Electrical Railroad.—It is stated that New England parties are endeavoring to secure a controlling interest in the Charleston City Railway Co. with a view to converting its lines to electrical roads.

Charleston, S. C.—Electrical Railroad.—The West End Railway Co. has applied to the legislature for a charter with S. J. Peggall and others as incorporators. The company contemplates building an electrical railroad, and is to have a capital stock of \$300,000.

Chattanooga, Tenn.—Railroad.—L. D. Roberts, of Philadelphia, has contract for building the incline railway for the Lookout Mountain Incline Railway Co., lately referred to.

Columbia, S. C.—Railroads.—Bills have been introduced in the legislature chartering the Columbia Electric Street & Suburban Railway & Electric Power Co.; North Highlands Railroad; Tennessee, Greenville & Port Royal Railroad Co.; South Carolina, Seaboard & Western Railroad Co., and the River & Seacoast Railway Co.

Corpus Christi, Texas.—Railroad.—A movement is on foot for the building of a railroad from Corpus Christi to Eagle Pass.

Covington, Va.—Railroad.—Contract is said to have been awarded for the construction of the Covington & Warm Springs branch of the Chesapeake & Ohio Railroad Co. (office, Richmond), previously reported.

Cumberland, Va.—Railroad.—C. T. Whiting, chief engineer of the Farmville & Powhatan Railroad Co. (office, Richmond), is making a preliminary survey for a branch road from a point north of Cumberland to the iron and coal mines of Buckingham county, and thence to a connection with the Norfolk & Western in Appomattox county.

Fayetteville, N. C.—Railroad.—The extension of the Wilson & Fayetteville Branch of the Wilmington & Weldon Railroad Co. (office, Wilmington), previously referred to, is to be built to Rowland, N. C.

Fort Worth, Texas.—Electrical Railroad.—Efforts are being made to organize a stock company to build an electrical street railway to Brooklyn Heights.

Fredericksburg, Va.—Railroad.—The Fredericksburg & Valley Railroad Co. has completed its organization with W. L. White, president; R. S. Walker, vice-president, and T. McCracken, secretary and treasurer. The company intends

building a railroad from Fredericksburg to Harrisonburg.

Galveston, Texas.—Railroad.—J. Neuberger, of New York city, is president; C. M. Rawlings, of Lyons, Kans., vice-president, and Edward Roemer, of Lyons, Kans., chief engineer, of the Omaha, Kansas Central & Galveston Railroad Co., lately referred to. The company proposes building a standard-gauge railroad from Omaha, Neb., to Galveston, an estimated distance of 900 miles, and the vice-president states that work will commence in about 30 days.

Granger, Texas.—Railroad.—The Georgetown & Granger Railroad Co. is the name of the company lately reported as organized with Emory Taylor, president, and J. M. Denson, vice-president. The company will build a railroad from Granger to Georgetown, a distance of 16 miles.

Greenville, Tenn.—Railroad.—The Carolina, Greenville & Northern Railroad Co., previously referred to, has organized with Charles G. Rankin, president. Greene county and Greenville voted to subscribe \$100,000 and \$50,000 respectively. Jonathan Ballard is chief engineer, and will soon commence surveying.

Greenville, S. C.—Railroads.—Bills have been introduced in the legislature providing charters for the Greenville & Paris Mountain Railway, Hotel & Real Estate Co. and the Greenville Electric Railway Co.

Greenwood, S. C.—Railroad.—J. C. Maxwell, D. C. Du Pre, T. F. Riley and others are the incorporators of the Greenwood, Edgefield & Atlantic Railroad, lately referred to.

Griffin, Ga.—Dummy Line.—The Griffin Street Railway Co., J. G. Rhea, president, will build a dummy line 2 miles long.*

Hartsville, Tenn.—Railroad.—The Middle & East Tennessee Central Railway, previously mentioned, expects to have trains running from Galatin to Hartsville by January 1. The road has been surveyed from Hartsville to Carthage. J. C. Rodemer & Co., of Galatin, Tenn., can give information.

Lake Charles, La.—Railroad.—P. H. Philbrick, chief engineer of the Kansas City, Watkins & Gulf Railroad, writes that the report circulated that the Boynton bicycle system had been adopted for that road is without foundation. He also states that Bracy, Bro. & Baker have contract for grading the last section of 30 miles between Lake Charles and Alexandria, and Kenned & Stow will lay the track.

Lexington, N. C.—Railroad.—Davidson county will probably hold an election to consider the subscription of \$100,000 to the Roanoke & Southern Railroad (office, Roanoke, Va.)

Lodi, Texas.—Railroad.—Dunn, Wurtsbaugh & Kand, lately mentioned, are building a logging road.

Lynchburg, Va.—Electrical Railroad.—The Rivermont Co. has awarded contract for a double-track electrical road, to run 3½ miles, to the Edison Electric Co., of New York, at \$54,000.

Mobile, Ala.—Railroad.—The Mobile & Western Railroad Co., mentioned last week, will probably soon commence the building of its railroad. The 30 miles of graded road-bed of the old Mobile & Northwestern Railroad, acquired by this company, as reported last week, is being prepared for construction by a corps of engineers.

Mobile, Ala.—Electrical Railroad.—The Mobile Street Railway Co., mentioned last week, will convert 15 miles of its road to the electric system, and may add 5 miles more, now operated by steam.*

Newport, Tenn.—Railroad.—The Southern Iron & Timber Co. writes that it intends building a railroad from Newport to English Mountain, to be completed within ten months.

Oxford, Ala.—Electrical Railroad.—The Oxford Lake Line has decided to issue \$75,000 of bonds, as lately stated, to change its dummy line to an electrical road, and extend it through Anniston.

Paducah, Ky.—Railroad.—The Chicago, Danville & Ohio River Railroad Co., chartered at Chicago, Ill., by George W. Cole, C. H. Willett, Richard A. Allen and others, intends building a railroad from Chicago by way of several points with terminus at Paducah. The company is capitalized at \$30,000,000.

Pickens, S. C.—Railroad.—A bill introduced in the legislature provides a charter for the Pickens Railroad Co.

Richburg, Miss.—Railroad.—C. W. Rich, mentioned last week, is building about 5 miles of standard-gauge railroad.

Salem, S. C.—Railroad.—The Salem Railroad Co. has applied to the legislature for a charter.

Salisbury, Md.—Railroad.—The building of a railroad from Salisbury to Nanticoke Point is proposed.

Spring City, Tenn.—Railroad.—An election is to be held to consider the voting of \$30,000 of bonds to the extension of the Tennessee Central Railroad.

Summit Point, W. Va.—Railroad.—A company is reported as chartered by William M. Clements and others to build a railroad from Summit Point to Berryville, Va.

Tallapoosa, Ga.—Railroad.—The Georgia-Ala-

bama Investment & Development Co., mentioned in last issue as to build the Georgia, Tennessee & Illinois Railroad, intends commencing construction about February 1, 1891.

Way Cross, Ga.—Railroad.—Contract for grading the first 5 miles of the Way Cross Air Line Railroad, commencing at St. Mary's, has been awarded to a Mr. Willis.

Weldon, N. C.—Street Railway.—J. T. Evans, W. H. Day, J. J. Lockhart and others have secured franchise to construct a street railway.

ADVICES from the manager of the Real Estate Exchange of Houston, Texas, state that parties in Houston are trying to form a company to build a railroad from the city of Houston to the mouth of the Brazos river. The length of the road will be from 53 to 55 miles, and as the route to be traversed is over level country, it is thought it can be well constructed for about \$9,000 a mile. The right of way would probably be given free, and, in addition, a land grant of from 25,000 to 30,000 acres of valuable farming lands, worth at the present time \$5 an acre, could be obtained as a donation to the enterprise. It is estimated it will take at least \$500,000 for the cost of construction, and the proposition is to bond the road at \$10,000 a mile, bonds to be floated by a construction company. The building of the road would give a value to the lands donated to it of from \$15 to \$100 an acre, thus insuring, in a short time after construction, an asset worth much more than the amount of money used in construction. The harbor at the mouth of the Brazos is the only port on the Gulf of Mexico which has to-day over 14 feet of water at the entrance. Nearly a million dollars has been expended by private capitalists within the last 12 months in constructing rock jetties so as to clear the bar at the mouth of the river, 400 feet in width. As appears by a recent survey, there is now 15 feet of water over this bar with the Gulf on the outside, and from 30 to 40 feet of water on the inside. Freshets in the river are constantly wearing this bar away, and the engineers in charge confidently assert that the next freshet will give 20 to 25 feet over the bar, as the scouring current of the river has put 15 feet of water now where trees were growing 12 months ago.

THE officers of the Erie Railroad named below recently left New York city on a tour of inspection over the entire system of the road: W. C. Rinearson, general passenger agent, New York; W. H. Starr, assistant superintendent of transportation; D. I. Roberts, assistant general passenger agent, Chicago; H. C. Holibird, general agent, Cincinnati; M. L. Fouts, general agent, Cleveland; W. G. Mason, division passenger agent, Youngstown; F. H. Garfield, division passenger agent, Jamestown; F. M. Caldwell, division passenger agent, Huntington, Ind.; C. H. Clough, general baggage agent, New York; S. T. Seeley, division passenger agent, Elmira; A. W. Boddie, division passenger agent, Buffalo; H. T. Jaeger, division passenger agent, Rochester; F. L. Pomeroy, general freight agent, New York; F. M. Parker, division freight agent, New York; W. C. Buck, division freight agent, Elmira; J. M. Horton, division freight agent, Rochester; S. A. Thompson, division superintendent, Rochester; S. P. Shane, general freight agent, Cleveland; J. Henderson, division freight agent, Youngstown; S. P. Woodside, division freight agent, Pittsburgh; W. H. Tennis, division freight agent, Indianapolis; F. W. Clark, division freight agent, Urbana; M. E. Staples, general agent, New York; G. F. Gragen, general live stock agent, New York; J. S. Merrill, division superintendent Pullman Palace Car Co., New York; J. Denel, assistant general freight agent, Buffalo. The train on which the officials travel was made up of three Pullman cars, beside the engine. The trip will extend over the entire system from New York to Chicago and Cincinnati. The Erie Road offer excursion rates for the holidays of round trip tickets between points on their line for one and one-third regular fare.

Southern Financial News.

NEW BANKS.

Argenta, Ark.—A bank will probably be organized.

Baltimore, Md.—The organization of an industrial bank with a large capital is planned. The secretary of the Merchants & Manufacturers' Association can give particulars.

Basic City, Va.—The Basic City Bank has been organized with G. G. Gooch, president, and J. M. Quarles, cashier. The capital stock is \$200,000.

Branchville, S. C.—F. W. Fairley, W. R. Reed, B. H. Moss and others have incorporated the Bank of Branchville, with a capital stock of \$20,000.

Chattanooga, Tenn.—A branch of the Mercantile Co-operative Bank of New York has been organized with D. L. Sublett, president, and J. M. Carson, secretary.

Clarksburg, W. Va.—J. E. Sands and others intend organizing the Traders' National Bank.

Easley, S. C.—A bank will probably be organized with W. M. Hagood, president, and W. C. Smith, cashier, the capital stock to be \$50,000.

Madison, Ga.—The Bank of Madison will increase its capital stock from \$50,000 to \$75,000.

Memphis, Tenn.—The Second National Bank will probably increase its capital stock \$50,000.

Milford, Texas.—The establishment of a national bank is proposed.

Thorp Springs, Texas.—The organization of a national bank is contemplated.

Baltimore, Md.—The Baltimore City Passenger Railway Co. has declared a dividend of \$1 per share.

Batesville, Ark.—The Batesville Flouring Mill & Manufacturing Co. has declared a dividend of 3 1/2 per cent.

Blacksburg, S. C.—A bill has been introduced in the legislature authorizing the issuance of bonds for school purposes.

Clanton, Ala.—A bill has been introduced in the legislature authorizing Chilton county to borrow \$25,000 for building a courthouse.

Fayette C. H., Ala.—A bill has been introduced in the legislature authorizing Fayette county to issue \$20,000 6 per cent. bonds for the purpose of building a courthouse and jail. The county clerk can give particulars.

Florence, Ala.—The Home Building Loan & Savings Association has declared a dividend of 12 per cent.

Greenville, S. C.—A State fire insurance company is to be organized with a capital stock of \$200,000 by G. A. Norwood, L. W. Parker, G. G. Wells and others.

Highland, Ala.—A bill has been introduced in the legislature authorizing the issuance of \$75,000 of bonds for improvement purposes.

Houston, Texas.—The Houston & Texas Central Railroad Co. has filed a resolution authorizing the issuance of \$3,634,000 first mortgage 5 per cent. 40-year gold bonds.

Knoxville, Tenn.—It is proposed to issue \$500,000 of bonds for sewer and other purposes. The mayor can give information.

Montgomery, Ala.—A bill has been introduced in the legislature authorizing the issuance of \$70,000 of bonds for street improvements. The mayor can give particulars.

Richmond, Va.—The Richmond & West Point Terminal Railway & Warehouse Co. has declared a dividend of 2 1/2 per cent. on preferred stock.

Sumter, S. C.—The Sumter Investment Co. has been incorporated by W. S. Andrews, Henry Cain, F. L. Stewart and others.

Tampa, Fla.—Hillsboro county will hold an election on December 16 to consider the issuance of \$70,000 twenty-five year 6 per cent. bonds for building a courthouse.

THE Fort Worth & Rio Grande Railroad Co. have engineers in the field marking a permanent location of the line from Comanche to Llano on the Mullins route. It comes from what is regarded as the best authority that the work of construction will begin inside of 40 days at the furthest, and that the work will be pushed ahead as rapidly as possible.—Journal of Finance.

FROM several quarters reports come that a new road has been surveyed and right of way secured for a new feeder to the Norfolk & Western Railroad. This, it is said, will leave the main line at Twelve Pole river, in Logan county, W. Va., and, cutting through the region the Hatfields and McCoys have made notorious, will traverse Boone, Wyoming and Mercer counties and will again strike the main line near Bluefields. The length of this new road will somewhat exceed 250 miles, in 50 of which are some of the richest canal coal deposits of the world, some of the veins being 12 feet thick.

Southern Securities

BOUGHT AND SOLD.

We Buy Total Issues of City, County, Water Company and Street Railroad

BONDS

Correspondence Solicited.

N. W. HARRIS & CO., Bankers,

15 Wall Street, New York.

163 & 165 Dearborn St., Chicago, 70 State St., Boston.

FOR SALE.

ONE OF THE LEADING NEWSPAPERS AND JOB OFFICES IN MISSISSIPPI, doing a good business. The only reason for selling is the proprietor having recently been disabled by paralysis. It is the official journal of the county.

Address THE DISPATCH, Columbus, Miss.

JOHN L. WILLIAMS & SON, BANKERS,

Our Manual of Investments for 1890, the largest work of the kind published by any banking house in America, (406 pages, octavo, cloth,) may be had without charge by clients, correspondents and those expecting to do business with us; by others at \$2 per copy.

Richmond Stock Exchange Quotations.

Reported by JOHN L. WILLIAMS & SON, Bankers, Richmond.

RICHMOND, VA., December 16, 1890.

	BID.	ASKED.
North Carolina 4's, 1910.....	97	100
North Carolina 6's, 1910.....	125	125
Virginia New 3's, 1935.....	63	63 1/2
Danville 5's.....	101	103
Lynchburg, Va., 5's, 1915.....	103	103
Petersburg, Va., 5's, 1918.....	104	104
Norfolk, Va., 5's, 1911.....	106	106
Richmond, Va., 5's, 1922.....	112	112
Atlanta & Charlotte G'd 5's, 1907.....	112	112
Atlanta & Charlotte G'd 5's, 1908.....	104	104
Char. Col. & Aug. R. R. Gen. 6's, 1935.....	109	109
Georgia Pacific Ry. 1st 6's, 1922.....	110	110
Georgia Pacific 2d 5's, 1923.....	67	69
Ga. Pacific Income, 5's.....	20	20
Petersburg Railroad Class A 5's, 1926.....	104	104
Petersburg Railroad Class B 5's, 1926.....	104	104
Rich. & Danville R. R. Gold 6's, 1915.....	114	116
West. N. Car. R. R. G'd 6's, 1914.....	98 1/2	100
Northwestern N. Car. R. R. 1st 6's.....	97	100
Atlanta & Charlotte R. R. Stock.....	97	97
North Carolina Railroad Stock.....	98	98
R. F. & Pot. R. R. Div'd Obligations.....	114	114
Virginia Midland Railway Stock.....	35	35
Sloss Iron & Steel Co. Stock.....	35	35
Sloss Iron & Steel Co. 1st 6's, 1917.....	91	91
Sloss Iron & Steel Co. 2d 6's, 1918.....	91	91

	Number of lots given with each 10 sh's stock.	When organized.	Capital stock.	Author. Paid up.	Par value.	Bid.	Asked.
BASIC CITY.							
Basic City M'n'g. Mfg. & Land Co.....		Dec. 7, '89	\$700,000	50%	100	..	55
Bristol.							
Southwest Bristol Land Co. b.....		Aug. '90	300,000	\$150,000	100	..	50
Pioneer Land Co.....		June, '90	500,000	100	100	..	100
Richmond & Bristol Land Co.....		June, '90	220,000	20	20	..	100
Commonwealth Land Co.....		June, '90	104,000	60,000	20	..	100
Bristol Land Co.....		June, '90	1,000,000	100	100	..	60
Central Land Co. b.....		Ap'l 12, '90	1,300,000	750,000	100	..	75
Buena Vista.							
Buena Vista Co.....	5	Feb 14, '89	800,000	50%	100	..	80
Buena Vista Improvement Co.....	..	Jan., 1889	50,000	full paid	100	..	100
CLIFTON FORGE.							
C. & O. Development Co. e.....	4	April, '90	300,000	100	100	..	75
Clifton Forge Mfg. & Devel. Co.....	5	Aug. 18, '90	200,000	100	100	..	120
Clifton Forge Co.....	5	May, 1890	400,000	100	100	..	100
CHARLOTTEVILLE.							
Charl'ton's Ind. & Land Imp. Co c.....	2 1/2	April, '89	50,000	50	50	..	50
Belmont Land Co.....	10	July 15, '89	100,000	100	100	..	100
Charlottesville Development Co.....	d	None	40,000	50	50	..	100
West End Land Co.....	2 1/2	April 16, '89	40,000	50	50	..	100
The Charlottesville Land Co. a.....	2 1/2	Nov. 28, '90	2,000,000	100	100	..	100
Jefferson Park Improvement Co.....	None	Aug. 15, '89	150,000	50	50	..	100
GLASGOW.							
Rockbridge Co.....	5	Sept., '89	5,000,000	475,000	100	..	115
West End Glasgow Land Co.....	None	March, '90	103,000	100	100	..	125
HARRISONBURG.							
Harrisonburg Land & Imp. Co.....	..	May 22, '90	150,000	75,000	100	..	125
Brook Land Co.....	..	..	..	..	10	30	..
Harrisonburg Bldg., Ld. & Tr. Co.....	..	Oct. 16, '90	50,000	25,000	10	18	..
Harrisonburg Min. & Devel. Co.....	None	Mch. 24, '90	300,000	103,000	100	..	205
LYNCHBURG.							
West Lynchburg Land Co. f.....	..	..	1,000,000	45%	100	..	100
Rivermont Co.....	..	..	1,500,000	40%	10	10	..
South Lynchburg Land Co.....	..	..	..	60%	100	..	100
Park Avenue Land Co.....	..	..	100,000	50%	100	..	100
PETERSBURG.							
West End Land & Improvement Co.....	..	June 15, '90	25,000	50%	..	..	..
Virginia Immigration L'd & Imp. Co.....	..	July 10, '90	50,000	100	..	..	111
PULASKI.							
Pulaski Development Co.....	..	March, '90	500,000	200,000	..	30	60
STAUNTON.							
Staunton Development Co.....	5	April, '90	2,000,000	400,000	100	..	100
Staunton Improvement Co.....	1	May, '90	200,000	60,000	10	10	12
Staunton Park Additional Co.....	5	May, '90	50,000	12,000	100	100	..
West Staunton Land Co.....	..	April, '90	75,000	40,000	100	..	100
West Staunton Additional Co.....	5	Oct., '90	100,000	5,000	100	100	117
Augusta P. B. & L. Association g.....	..	Feb., '85	200,000	70,000	100	100	110
Staunton P. B. & L. Association g.....	..	Feb., '81	400,000	125,000	200	222	224
Virginia L. & L. Association h.....	..	June, '89	5,000,000	46,000	100	..	100

a—Books still open; stock being placed at 50 per cent.
b—Stock placed at 50 per cent.
c—3 per cent. dividend declared October, 1889.
d—Consolidated and merged in Charlottesville Land Co.
e—10 per cent. dividend declared, payable January 1, 1891.
f—When 50 per cent. has been paid in the stock will be declared full paid. The company receives the stock at \$75 in payment and 4th payments for lots purchased of them.
g—4 per cent. dividend July 1, 1890.
h—7 per cent. dividend July, 1890.

National Bank of Commerce

OF BALTIMORE.

Capital - - - - - \$300,000.
Surplus and Undivided Profits - 50,000.

Specially solicit the accounts of banks and bankers. Allows them a liberal rate of interest on daily balances. Credits them at par with items on the Eastern States, Maryland and adjoining States and the prominent cities of the Western States. Correspondence invited.

MAGNOLIA, MISS.

It will pay capitalists or stock companies 25 per cent. profit to build and operate cotton and woolen mills and other factories at Magnolia, Pike county, Miss. No State tax for 20 years; inexpensive building material and fuel; location and climate unsurpassed; about 30,000 bales cotton handled annually; no malaria; elevation 30 feet. Investigators can address

L. KNAPP.

Foreign Exchange Quotations.

ALEXANDER BROWN & SONS, BALTIMORE, December 17, 1890.

	Commercial.	Nominal.
Sterling—		
60 days.....	479 1/2	..
3 days.....	484 1/2	..
Francs—		
60 days.....	521 1/2	..
3 days.....	518 1/2	..
Reichmarks—		
60 days.....	94 1/2	..
3 days.....	95 1/2	..
Guilders—		
60 days.....	40 1/2	..
3 days.....	40 5-16	..

Baltimore Stock Exchange Quotations.

Reported by ALEXANDER BROWN & SONS, Bankers, Baltimore.

BALTIMORE, December 17, 1890.

	BID.	ASKED.
Virginia 6's Consols C.....	62 1/2	63
Virginia Consol Coupons.....	62 1/2	63
N. Carolina 4's.....	97 1/2	98 1/2
Ga. Car. & N. 5's.....	102 1/2	103 1/2
Wil. & Wel. 5's.....	111 1/2	112 1/2
Ohio & M. 2d.....	115	115
Ohio & M. 1st S. Div. 7's.....	109 1/2	109 1/2
Atlanta & Char. Income 6's.....	108	108
Col. & Green. 1st 6's.....	108	108
Col. & Green. 2d 6's.....	84	84
Va. Midland, 2d 6's.....	113 1/2	114
Va. Midland, 5th 6's.....	90 1/2	90 1/2
Charlotte, C. & Aug. 2d 7's.....	100	100
West Va. Central 1st 6's.....	109 1/2	109 1/2
Ga. Pacific 1st 6's.....	108 1/2	108 1/2
Ga. Pacific 2d 6's.....	66 1/2	66 1/2
West. Nor. Car. Cons'd 6's, Gold.....	98 1/2	98 1/2

"MONEY WANTED" advertised free of charge by the MANUFACTURERS' RECORD.

ALEX. BROWN & SONS

ESTABLISHED 1811.
Cor. Baltimore and Calvert Streets,
BALTIMORE, MD.

BROWN BROTHERS & CO.
New York, Philadelphia and Boston.

Foreign and Domestic Bankers,
AND MEMBERS OF THE
Baltimore, New York and Philadelphia
Stock Exchanges.

(Private wire between Baltimore, Boston,
Philadelphia and New York.)

Interest allowed on deposits of
Banks, Bankers, Corporations and In-
dividuals (by agreement). Railroad,
Municipal & other Loans Negotiated.

BUY AND SELL BILLS OF EXCHANGE

on Great Britain and Ireland, France, Germany,
Holland, British West Indies and other foreign
points.

Issue Commercial and Travelers'
Letters of Credit.

IN STERLING, available in any part of the
world; and IN DOLLARS, for use in this
country, Canada, Mexico, the West Indies and
South America.

Make Cable and Telegraphic Transfers
of Money.

Drafts Collected in all parts of the World.

BROWN, SHIPLEY & CO., LONDON.

English Money Syndicate.

MOREHEAD & OGDEN

BANKERS,

No. 48 Exchange Place, New York.

TRANSACTION A
GENERAL BANKING BUSINESS.

Government, State, Railway, Municipal and
County Bonds Bought and Sold.

Make Collections of Drafts, Notes, Dividends
and Coupons, throughout the United States and
Canada. Buy and Sell Bills of Exchange.

Receive Deposits Subject to Check at Sight.
Allow Interest on Daily Balances.

Accounts of Banks, Bankers, Corporations and
Individuals Solicited.

Act as Fiscal Agents for States, Cities, Counties
and Corporations.

We are prepared, through the
highest English connections, to
negotiate the sale of American manu-
facturing and other properties in
England.

FOR SALE.

Cotton-Seed Oil Mill and Fertilizer Factory.

On the 15th day of January, 1891, the plant of
the Winnabow Oil Mill & Fertilizer Company
will be sold to the highest bidder. Plant and
buildings new; capacity twenty tons.

For particulars apply to

U. G. DESPARTES, Prest.
WINNSBORO, S. C.

FOR SALE.

One 40 to 50 Horse-Power Second-
Hand BALL ENGINE. Good as new.

One 40 to 50 Horse-Power Second-
Hand HARRISON'S SAFETY BOILER.

Will be sold at great bargain. We sell to put
in more power.

MARION COTTON MILLS,
MARION, S. C.

FOR SALE CHEAP.

100 Horse Power Engine.

1 First-class second-hand 18x30 inch Plain Slide
Valve ENGINE, built by Frick & Co. Com-
pletely overhauled and good as new. Fly
wheel in 6 segments, 12 feet diameter by 20
inch face, also.

2 Second-hand Horizontal Two-flue Cylinder
BOILERS, 40 in. diameter and 30 feet long.
Just the thing for a saw mill, where economy
of fuel is no object. Address

REUTER & MALLORY,
BALTIMORE, MD.

ADDITIONAL CAPITAL PROCURED

For Approved Southern Industrial Undertakings.
Companies Promoted for the Development of
Coal, Iron and other properties upon reasonable
terms under English laws. Railway and other
well-secured loans negotiated. Correspondence
invited. Address

E. B. NEWBURN,

19 Leicester Square, Hyde Park,
LONDON, ENG.

North Carolina Lands and Town Property FOR SALE.

Price of lands \$7 to \$30 per acre. Money
loaned at 8 per cent. on Real Estate; no expense
to lender. Best references.

JOHN A. WILLIAMS,

Dealer in Real Estate. OXFORD, N. C.

—FOR SALE.—

A BARGAIN.

Owing to bad health I will sell one-
half interest in Thomasville Variety
Works, Planing Mill and Lumber Yard;
one-third interest in Thomasville Electric
Co. All new, doing fine home and ship-
ping trade. Two railroads now building.
Address

W. H. REYNOLDS,
Thomasville, Ga.

Valuable Property FOR SALE.

Surviving Partners' Sale of "Stevens'
Pottery," one of the Largest Pot-
teries in the South.

Will be sold before Courthouse door, city of
Milledgeville and said County and State on first
Tuesday in January, 1891, between legal sale
hours, to the highest bidder, the entire plant
known as Stevens' Pottery, consisting of Sewer
Pipe, Fire-Brick and Stoneware Plants, fully
equipped with modern machinery throughout,
and all necessary buildings for successful opera-
tion. Has 2,600 acres of land, more or less, on
which are fine clay beds in unlimited quantities;
dwellings, tenement houses; one storehouse with
mixed stock of goods. The entire property will
be sold in a lump; terms cash. Sold for division
between surviving partners and legatees of de-
ceased partner. Purchasers invited to inspect
property. Titles perfect and business paying
handsome dividend. W. C. & J. H. STEVENS,
surviving partners of

STEVENS BROS. & CO.
Stevens' Pottery, Ga.

FOR SALE.

MANUFACTURING PLANT

—OF THE—

Cornell Wind Engine & Pump Co.

As Assignee of the above Company I will re-
ceive until December 31 private bids for the en-
tire plant, good will, leasehold, finished and
unfinished stock, machinery and office furniture.
Everything in readiness for immediate operation.

The plant is located at the corner of 13th
and Main streets, Louisville, Ky., and is thoroughly
equipped for the manufacture of Wind Mills,
Tanks and such appliances, and can be operated
to great advantage in connection with the man-
ufacture and sale of farming implements. Rail-
road facilities unsurpassed. Everything in first-
class order, and thorough inspection solicited.
An unusual opportunity offered to manufacturers.

ADDRESS

R. C. KINKEAD, Assignee,

419 Centre Street, Louisville, Ky.

The Southern Investment Co.

J. J. BURNS, Manager. 167 Dearborn St., Chicago, Ill.

BUY AND SELL SOUTHERN REAL ESTATE,

City and Town Property. Mineral and Timber Lands, Mines,
Mills, Furnaces and Factories. Colonies Established.
Correspondence Solicited.

WILSON, COLSTON & CO. (Members of Baltimore Stock Exchange.) BANKERS,

216 East Baltimore Street, Baltimore, Md.

Investment and Miscellaneous Securities a specialty, and large lines handled. Exceptional facilities for
dealings in all classes of Southern Bonds. Loans on Collateral Securities negotiated. Quotations and
information furnished on application, and correspondence invited.

J. Wm. MIDDENDORF.

Members Baltimore Stock Exchange.

Wm. B. OLIVER.

MIDDENDORF, OLIVER & CO.

BANKERS AND BROKERS,
No. 213 E. German Street, [KEYSER BUILDING.] Baltimore, Md.

Stocks and Bonds Bought and Sold on Commission. Special attention given to Municipal and other Invest-
ment Loans. Dealers in Foreign Exchange. Drafts on Europe and Letters of Credit furnished.

Southern Railway Construction Co. Capital \$500,000.

Organized for the especial purpose of negotiating Southern Railway Bonds and General Securi-
ties, and the building of railroads, Water Plants and other Public Works. OFFICES: New York, 37
Broadway; Chattanooga, Tenn., Richardson Building; Louisville, Ky., 327 Fifth Street.

GENERAL OFFICE, CHATTANOOGA, TENN.

Gov. John B. Gordon, Georgia, President; Chas. O. Beede, Lynn, Mass., 2d Vice-President; Chas.
A. Brooks, New York, 1st Vice-President; Roland C. Cook, Chattanooga, Tenn., Secretary and
Treasurer; Chas. E. Danforth, New York, General Manager.

200,000 SHARES STOCK

American Midland Railway, New York to Chicago.

(300 miles shorter than the New York Central and 130 miles shorter than the Pennsylvania.)

\$10.00 per Share.

Par Value \$100.00.

Payable \$1.00 per Share on Application.

" 2.00 "	" Allotment.
" 3.00 "	" in 30 days thereafter.
" 4.00 "	" in 30 days thereafter.

No subscription binding until the entire amount is subscribed. Send for circular.

JOEL HAYDEN & CO.

Agents for New England States,

No. 19 Congress Street, BOSTON, MASS.

CARLISLE MFG. CO.

Cars, Engines, Frogs

AND SWITCHES,
CARLISLE, PA.



DESKS,
Chairs,
Office Furniture
SEND FOR CATALOGUE.
DERBY & KILMER DESK CO.
Baltimore,
opp. Lowell Depot,
33 Broadway St., Boston.

**BANK
OFFICE**
AND STORE FIXTURES
THE TERRY MFG. CO.
NASHVILLE
TENN.

Important to All Corporations.

Every Incorporated Company should USE
KAUFFMAN'S Copyrighted Forms of Improved
Record Book, Transfer Book, Stock Register,
Stock Ledger and other valuable books. Write
for Descriptive Circular. Address

CORPORATION BOOK CO.
Room 25, Lucas Bldg., 1226 Chestnut St., Philadelphia, Pa.

NEW & KODAKS.



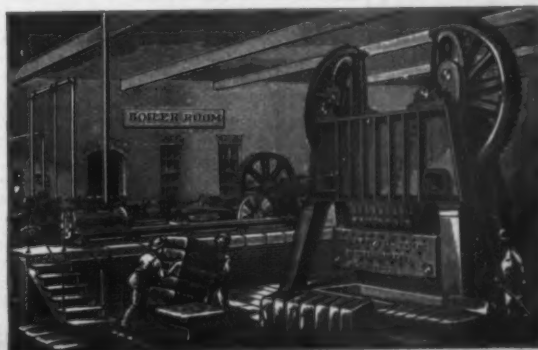
"You press the
button,
we do the rest."

Seven New Styles and Sizes
ALL LOADED WITH Transparent Films.
For Sale by all Photo. Stock Dealers.

THE EASTMAN COMPANY,
Send for Catalogue. ROCHESTER, N. Y.

THE CAMPBELL COTTON COMPRESS

Is sold on the following GUARANTEE:



DENSITY Obtained
Equal to Any.
COST of Plant Less
Than Any.
EXPENSE of Running
Half of Any
First-Class Compress.

Correspondence Solicited.

**The Campbell Cotton
Compress Co.**

109, 111, 113 & 115 E. Front St.
CINCINNATI, O.

CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

*Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ALABAMA.

Athens—Oil and Gas Wells.—The Limestone County Oil, Gas & Piping Co. has been organized with Theodore Westmoreland, president; W. H. Sykes, vice president, and J. H. Davis, treasurer. The company has leased, it is stated, 16,000 acres in Limestone county and will sink oil and gas wells.

Avondale—Sewerage System, &c.—A bill will be introduced in the legislature asking authority for the city to issue \$15,000 of bonds for the construction of sewers, etc.

Bessemer—Sewerage, &c.—The city has received authority to issue \$50,000 of bonds for the construction of sewers and other improvements. The mayor can give further information.

Columbia—Carriage and Buggy Factory.—A carriage and buggy factory is reported as to be erected.

Florence—Shoe Factory and Tannery.—J. J. Gruble, of Mankato, Minn., is investigating with a view of purchasing the Sweetwater Shoe Factory, operating same and building a tannery.

Heflin—Saw and Planing Mill.—J. C. Jackson has removed his planing mill to Heflin, as recently stated, put in saw mill machinery and erected dry-kiln.

Highland—Improvements.—A bill will be introduced in the legislature to authorize the city of Highland to issue \$75,000 of bonds for public improvements.

Jasper—Brick Works.—W. H. Moore has organized a stock company, as recently stated, and will establish brick works.

Mobile—Electric Plant.—The Mobile Street Railway Co. will erect a plant to operate its lines by electricity.

Mobile—Barrel Factory.—The establishment of a barrel factory is proposed.

New Decatur—Broom Factory.—Legler & Robertson are reported as having started a broom factory.

Selma—Cotton-tie Factory.—The erection of a cotton tie factory is talked of.

Sheffield—Sewerage System.—Charles Donahue has received contract, it is stated, for the construction of the sewerage system lately mentioned.

Troy—Bottling Works.—The Troy Ice Co. is reported as to establish bottling works.

ARKANSAS.

Fort Smith.—The Border City Wood Package & Canning Co., reported last week as incorporated, is to succeed the Fort Smith Canning & Wood Package Co.*

Hot Springs—Publishing.—The Lancet Publishing Co. has been incorporated with J. H. Leslie, president, and J. M. Harrell, secretary. The capital stock is \$25,000.

Hot Springs—Publishing.—The Union Publishing Co. has been incorporated with G. C. Latta, president, and W. H. C. Broadbush, secretary. The capital stock is \$25,000.

Little Rock—Coal Mines, &c.—The Black Diamond Coal & Fuel Co. has been incorporated with J. P. Webb, president; L. R. Stark, vice-president, and J. Kellogg, secretary. The capital stock is \$15,000.

Little Rock—Publishing.—The Christian Monitor Publishing Co. has been organized at Russellville with J. H. Shinn as president, to publish the Christian Monitor; capital stock \$5,000.

Lonoke County—Cotton Gin.—J. P. Eagle may rebuild his cotton gin, recently reported as burned.

Pine Bluff—Car Shops.—The St. Louis, Arkansas & Texas Railroad Co. (office, St. Louis, Mo.) is reported as having secured site and as to erect car shops in Pine Bluff.

Warren—Stave Factory.—Pennsylvania parties are reported as to establish a stave factory in Warren.

FLORIDA.

Anthony—Shingle Mill.—J. A. Smith is reported as having put additional machinery in his shingle mill.

Homeland—Phosphate Mines.—W. M. La Rue has organized at Cincinnati (Ohio) it is stated, a stock company to develop phosphate mines near Homeland.

Jacksonville—Fibre Factory.—The Florida Fibre Co. has been incorporated with D. W. Fletcher, president; H. M. Tritot, vice-president, and E. C. Patterson, secretary, to manufacture fibre from sisal hemp. The capital stock is \$40,000.

Ocala—Lime Works.—Daniel and Hugh Sinclair are reported as having purchased the Agnew's Lime Works from Julius Meiswinger, of Milwaukee, and will probably operate same.

Pensacola—Car Coupler Factory.—The Moomaw Automatic Car Coupler Co., lately mentioned as organized to manufacture the Moomaw car coupler, has been incorporated.

GEORGIA.

Athens—Electric light Plant.—The Athens Manufacturing Co. is reported as putting an electric light plant in its cotton factory.

Atlanta—Machine Shops.—The Southern Machinery Co. contemplates increasing its capital stock \$50,000.

Atlanta—Cold-storage Plant.—W. C. Robinson, of Rome, and K. Y. and D. E. Dawson will organize a stock company, it is stated, to erect a new process cold-storage plant patented by W. C. Robinson.

Augusta—Real Estate.—Patrick Walsh, W. C. Jones, J. L. Maxwell and others have incorporated the West Side Development Co. to deal in real estate, etc. The capital stock is \$10,000.

Brunswick—Electric-light Plant.—The Oglethorpe Hotel is, it is stated, putting in an electric-light plant.

Cartersville—Iron Mines.—A. M. Willingham and Aaron Colling are reported as having purchased a tract of iron ore land near Cartersville and as to organize a stock company to develop same.

Cochran—Bottling Works.—Liddell & Chumlea are reported as to establish bottling works.

Columbus—Iron Foundry.—The Columbus Iron Works Co., has put electric welding machinery in its iron foundry, as reported in our last issue.

Dahlonega—Gold Mines.—The Hand Gold Mining Co. is reported as developing gold mines on the Benning property.

Dahlonega—Gold Mine.—The Findley Gold Mining Co. is reported as to develop the Findley gold mine.

Dahlonega—Rice Mill.—W. T. Head is reported as erecting a rice mill.

Darien—Ice Factory.—Arrangements are being made for the erection of an ice factory. Sinclair Bros. can give information.

Eatonton—Laundry.—A steam laundry will probably be established by a stock company to be organized. J. H. Adams, Jr., can give information.*

Ellijay—Mineral Lands.—G. W. M. Thomas, A. J. Stoops, John Hibeck and others are reported as to organize a stock company for the purpose of developing at once 11,000 acres of mineral land near Ellijay which they have secured.

Griffin—Land Improvement.—The Griffin Real Estate Investment Co. has purchased the 120 acres of land near Griffin, as reported in our last issue, will improve same and lay it off into building lots.

Macon—Ice Factory and Cold-storage Warehouse.—The ice factory and cold-storage warehouse on Mulberry street is reported as to be improved and put in operation.

Marietta—Laundry.—D. C. Hamby is investigating with a view of establishing a steam laundry in Marietta.

Milledgeville—Water Works.—The city has decided by a popular vote to issue bonds for the construction of the water works previously mentioned.

Milledgeville—Laundry.—The stock company previously reported as organized to erect a laundry has been incorporated as the Milledgeville Steam Laundry Co.

Milledgeville—Bridge and Turnpike.—D. B. Sanford will receive bids until January 8, 1891, for

the construction of a bridge and turnpike across Town creek.

Rome—Electric-light Plant.—A stock company will be organized, it is stated, for the purpose of erecting a new electric-light plant.

Savannah—Bottling Works.—The Anheuser-Busch Brewing Co., of St. Louis, Mo., is reported as having erected bottling works in Savannah.

Tallahassee—Iron Furnace.—The Tallapoosa Furnace Co. will erect another stack 11x60 feet, enlarge cast-house and put in additional machinery, etc., making its plant a twin furnace with an annual capacity of 25,000 tons.

Tunnel Hill—Iron Mines.—Philadelphia parties are reported as having purchased a tract of iron ore land near Tunnel Hill, and organized a stock company to develop same. C. C. Davis can give information.

Wishart—Shingle and Lath Factory.—Mayfield, Wishart & Mobley are reported as erecting a shingle and lath factory with a capacity of 150,000 per day.

KENTUCKY.

Ashland—Hub and Spoke Factory.—The American Wheel Co. has purchased J. D. Williams' hub and spoke factory, will double the capacity of and operate same.

Ashland—Wood Pulp Factory.—A representative of a wood pulp factory is investigating with a view of removing same to Ashland. The Ashland Improvement Co. can give information.

Ashland—Handle Factory.—A representative of a handle factory is investigating with a view to the removal of same to Ashland. The Ashland Improvement Co. can give information.

Cloverport—Brick and Tile Works.—A stock company is being organized, it is stated, for the purpose of establishing brick and tile works.

Covington—Buggy Factory.—H. K. James, L. G. Mayer and F. B. James have incorporated the James & Mayer Buggy Co. to manufacture buggies, &c. The capital stock is \$50,000.

Danville—Water Works.—Knoxville (Tenn.) parties have submitted a proposition, it is stated, to construct a system of water works at Danville. The mayor can give information.

Louisville—Cotton Mill.—The Louisville Cotton Mill Co. is reported as putting new machinery in its cotton mill.

Maysville—Planing Mill.—W. B. Mathews & Co. are reported as having secured site and as to erect a planing mill.

Middlesborough—Brick Works.—The Belt Line Brick Co. contemplates the erection of a steam dryer at its brick works.

Middlesborough—Brick Works.—The Watts Fire Brick Works are reported as putting in new machinery and as enlarging its plant.

Paducah—Furniture Factory.—The Paducah Furniture Manufacturing Co. has put new and additional machinery in its furniture factory and otherwise improved same.

Pineville—Wagon and Woodworking Factory.—Miller & Jones are reported as to establish a wagon and woodworking factory.

LOUISIANA.

Franklin—Sugar-house.—Joseph Bourg is reported as having put new machinery in his sugar-house at Franklin.

Franklin—Sugar Refinery.—J. A. Morris, of New Orleans, is reported as to erect another sugar refinery at Franklin.

Franklin—Ice Factory.—Albert Hanson has received, it is stated, contract for the erection of the ice factory previously mentioned.

Houma—Sugar Factory.—The organization of a stock company for the purpose of erecting a sugar factory is talked of.

Houma—Sugar Factory.—H. C. Minor, of Southdown, will probably enlarge his sugar factory at that place.

Jeannerette—Saw and Shingle Mill.—Milmo, Stokoe & Co. will erect additional dry-kilns at their saw and shingle mill.*

Jeannerette—Shingle Mill.—J. F. Baxter, of Michigan, will erect a shingle mill in Jeannerette.

Logansport—Saw Mill.—Howell, Jewett & Co. will erect a saw mill, as lately reported.

New Iberia—Sugar-house.—P. Patout is reported as having put new machinery in his sugar-house.

New Orleans—Chemical Works, &c.—The Bogel Drug Co. contemplates the manufacture of chemicals and pharmaceutical apparatus.

Patterson—Sash, Door and Blind Factory.—The Callahan & Lewis Manufacturing Co., mentioned in our last issue (under New Iberia, La.), has purchased the Patterson Sash, Door & Blind Factory, Limited, near Patterson, and will operate same.

MARYLAND.

Baltimore.—M. R. Hickey will put in a 150 horse-power steam boiler; House of Refuge,

Frederick road, will put in a 30 horse-power steam boiler, and J. T. Scharf will put in a 30 horse-power steam boiler.

Baltimore—Paint Factory.—The Canton Color Co., recently reported as incorporated, will operate the Bloede paint factory.

Baltimore—Piping Works.—W. M. Darnett, N. M. Rittenhouse, S. W. Regeater and others have incorporated the Sanitary Silex Co. for the manufacture of patent piping for building walls. The capital stock is \$100,000.

Bel Air—Carriage Factory.—The Bulett Carriage Co. has put in additional machinery, as reported in our last issue.

Brunswick—Water Works.—The Brunswick Water Co. has been organized with C. M. Womner as president; Edward Sha'er, vice-president, and W. L. Gross, secretary, for the purpose of constructing water works. The capital stock is \$25,000.*

Carroll—Woolen Mill.—The Carroll Woolen Mills, recently reported (under Catonsville) as incorporated, will operate the woolen mill of Albert Felber near Carroll, and may put in additional machinery.

Carroll—Dyeing Works.—V. G. Bloede is erecting a factory for the manufacture of dye stuffs near Carroll.

Cumberland—Cement Works.—The Cumberland Hydraulic Cement & Manufacturing Co. will rebuild, it is stated, its cement works lately reported as burned.

Frederick—Ice Factory, &c.—It is stated that brick works, machine shops, spoke factory, canning factory and ice factory will be established. The Frederick City Manufacturing & Development Co. can give information.

Queenstown—Canal.—The American Dredging Co., of New York city, has received contract to complete the widening and deepening of the ship canal to Baltimore. The work will cost about \$750,000.

MISSISSIPPI.

Ellisville Depot—Bridge.—J. H. Bynum will receive bids until January 5, 1891, for the construction of a bridge across Tiger creek.

Greenville—Levees.—Cross, Head & Montgomery, of New Decatur, Ala., have received, it is stated, a \$40,000 contract for levee work near Greenville.

Meridian—Electric-light Plant.—An electric-light plant has been put in the St. Charles Hotel, as recently reported.

Scranton—Water Works.—The construction of a system of water works is proposed. The mayor can give information.

Scranton—Artesian Well.—The Sutter Co., of Biloxi, is reported as sinking an artesian well for A. E. and F. H. Lewis at Scranton.

NORTH CAROLINA.

Beaufort—Oyster-canning Factory.—J. A. Duncan, Omega Foster, William Grimes and others have organized the Carteret Oyster Co. for the purpose of erecting an oyster-canning factory with a capacity of 24,000 cans per day.

Greensboro—Iron Furnace.—At a meeting of the directors of the North Carolina Steel & Iron Co., held on the 16th inst., it was decided to proceed at once with the construction of a 120-ton iron furnace.

Keyser—Planing Mills.—J. A. Mills will rebuild his planing mill, reported in our last issue as burned.*

Lincoln County—Cotton Mill.—Morrison & Reinhardt will, it is stated, increase the capacity of their cotton mill.

Lincolnton—Water Works, &c.—The city will petition the legislature for authority to hold an election on the question of issuing \$100,000 of bonds to construct water works, improve streets, etc.

Mt. Airy—Land.—The Granite City Improvement Co., lately reported as incorporated, has a capital stock of \$600,000.

Northampton County.—The cotton gin on the State farm in Northampton county will be rebuilt.

Oxford—Shingle Factory.—S. W. Parker has added new machinery to his shingle manufactory.

Raleigh—Cotton Factory, &c.—It is stated that the South Raleigh Improvement Co. will be incorporated to build a \$150,000 cotton factory, cotton-seed oil mill and fertilizer factory, improve land, etc.

Statesville—Roller Flour Mill.—The stock company previously reported as organized by J. J. Mott, J. J. Sullivan and others to erect a roller flour mill is known as the Statesville Milling Co. and has, it is stated, commenced the erection of its mill.

Washington—Rice Mill.—The Carolina Rice Milling Co., of Wilmington, will rebuild in Washington rice mill, reported in this issue as burned.

SOUTH CAROLINA.

Abbeville—Machine Shops.—A bill will be introduced in the legislature authorizing the town to contract with the Georgia, Carolina & North Carolina Railroad Co. (office, Athens) for the erection of its machine shops in Abbeville.

Batesburg—Manufacture.—J. H. Huiett, L. D. Cotton, N. A. Bates and others have incorporated the Batesburg Manufacturing Co. with a capital stock of \$5,000.

Charleston—Fertilizer Factory.—W. N. Izlar is president; J. M. Rivers, vice-president, and J. S. Puhler, secretary, of the Piedmont Guano Co., lately reported.

Columbia—Candy Factory.—C. C. Habenicht, and J. A. Hamilton, of Baltimore, Md., are reported as to establish a candy factory.

Columbia—New Town.—Miller Bros. will incorporate the Columbia Heights Land & Improvement Co. for the purpose of building a new town on their two hundred acres of land near Columbia. The capital stock is \$50,000.

Columbia—Cotton Baling Factory.—George Warrig has received contract to erect a new cotton baling factory for the Miller Baling & Manufacturing Co., mentioned last week.

Columbia—Electric Plant.—A bill has been introduced in the legislature providing a charter for the Columbia Electric Street & Suburban Railway & Electric Power Co.

Gaffney City—Barrel Factory and Saw Mill.—The Enterprise Lime Co. has erected the saw mill and barrel factory near Gaffney City mentioned in our last issue.

Greenville—Candy Factory.—W. W. Boyat & Co. are reported as having started a candy factory.

Latta—Mill.—A bill has been introduced in the legislature to incorporate the Latta Tramway & Mill Co.

Pacolet—Cotton Mill.—The Pacolet Manufacturing Co. is reported as having put new machinery in its cotton mill.

Spartanburg—Sewerage System.—The city will probably issue bonds for the construction of a sewerage system. The mayor can give information.

Summerton—Fertilizer Factory and Oil Mill.—J. S. Bruck and J. K. Rutledge, previously reported as contemplating the erection of a fertilizer factory and cotton-seed oil mill, have with others incorporated the Summerton Fertilizer & Manufacturing Co. for the purpose of erecting and operating same. The capital stock is \$65,000.

Valley Falls—Water-power.—F. H. Cash, of Martinsville, will probably organize a stock company to develop the water-power at Valley Falls.

Valley Falls—Cotton Mill.—F. H. Cash, of Martinsville, has purchased, it is reported, the cotton yarn mill of G. S. Turner, will improve same and put it into operation.

Yorkville—Buggy Factory.—The Carolina Buggy Co. will hold a meeting on January 2d, next, to consider the increase of its capital stock to \$100,000.

TENNESSEE.

Adolphus—Distillery.—Samuel Wilson is reported as erecting a distillery near Adolphus.

Bristol—Car Shops.—The organization is proposed of a \$500,000 stock company to establish car works in Bristol. The secretary Chamber of Commerce can give information.

Bristol—Medicine Factory.—The Brown Manufacturing Co., reported last week, will build its factory of brick, 50x125 feet, and put in electric-light plant.

Bristol—Terra-cotta Works.—E. W. Conkling, of New York city, is investigating with a view of establishing terra-cotta works in Bristol.

Cardiff—Steel Plant.—The South Tredgar Iron Co., of Cardiff, Tenn., mentioned below (under Chattanooga), will construct, it is stated, a \$250,000 basic steel plant at Cardiff.

Chattanooga—Iron Works, Nail Mill, etc.—It is stated that Eastern parties will organize a \$500,000 stock company to be known as the South Tredgar Iron Co., of Cardiff, Tenn., for the purpose of purchasing (for \$306,000), improving and operating the iron works, nail mill, etc., of the South Tredgar Iron Co., at Chattanooga. (See Cardiff).

Chattanooga—Brick and Terra-cotta Works.—E. N. Conkling, of Philadelphia, Pa., is reported as to organize a stock company to erect brick and terra-cotta works in Chattanooga.

Chattanooga—Electric-light Plant.—The Nashville, Chattanooga & St. Louis Railway Co. will put an electric-light plant in its machine shops, as recently stated.

Chattanooga—Tool Works.—The Vermont Tool Co., of Vermont, contemplates the removal of its tool works to Chattanooga.

Chattanooga—Machine Shop.—The Chattanooga Machinery Co. has put additional machinery in its machine shop, as recently stated.

Chattanooga—Land.—C. A. Davis, of Georgia, has purchased from J. P. Smartt 30 acres of land near Chattanooga for \$30,000 and will probably improve same.

Dayton—Tannery.—It is stated that the tannery recently mentioned will express by a new process the acids from oak and hemlock bark used in tanning.

Greenville—Woolen Mill.—The erection of another woolen mill is talked of.

Greenville—Cotton Mills.—A stock company is reported as being organized to erect cotton mills.

Harrisburg—Sewing Machine Factory.—The Acme Sewing Machine Co. contemplates the erection of a branch sewing machine factory in Harrisburg.

Henryville—Iron Furnace.—The Napier Iron Co., previously reported, has let contract to Stein & Schwarz, of Philadelphia, Pa., for the construction of a 12x60 feet blast furnace.

Hill City—Water Works.—The construction of a system of water works is talked of.

Jasper—Iron Works, etc.—A \$30,000 stock company is reported as incorporated to establish iron works; a \$10,000 planing mill is reported as to be established, and negotiations are pending for the establishment of a hub and spoke factory. The Jasper City Land & Mining Co. can give information.

Jasper—Canning Factory.—Wesley & Morton, of Boston, Mass., will, it is stated, erect the canning factory lately mentioned.

Johnson City—Lumber Mills.—The Watauga Lumber Co. is reported as to put new machinery in and enlarge its lumber mills.

Johnson City—Laundry.—The Johnson City Steam Laundry Co. is reported as having opened a new laundry and added machinery to same.

Knoxville—Sewerage System.—The construction of a sewerage system is proposed in West Knoxville. Mayor Voe can give information.

Knoxville—Sash, Door and Blind Factory.—J. L. Hudiburg, has purchased the Broome sash, door and blind factory, as stated in our last issue.

Knoxville—Sewerage System, etc.—The city is considering the issuance of \$250,000 of bonds for the construction of the sewerage system lately mentioned, and \$250,000 for bridges and street improvements. The mayor can give information.

Lebanon—Creamery and Laundry.—Foster & Adams have purchased the creamery of J. I. D. Hines and will operate it; also steam laundry in connection with same.

Livingston—Lumber Mill.—The Overton Lumber Co. has been organized with Moses Miller as president and secretary.

Morristown—Land.—The Morristown Co. has been organized with a capital stock of \$1,000,000. This company controls 900 acres of land in and about Morristown and will probably improve same.

Nashville—Round-house and Machine Shops.—The Nashville, Chattanooga & St. Louis Railway Co. is reported as to erect a round-house and machine shops.

Pulaski—Corn Meal Mill.—Neely & McCord will increase the capacity of their corn meal mill.

Somerville—Grist Mill and Gin.—R. G. Patterson is erecting a cotton gin and grist mill in Fayette county.

TEXAS.

Aransas Pass—Laundry.—A steam laundry is reported as to be established.

Asia (P. O. at Corrigan)—Lumber Mill.—Allen & Co. are reported as enlarging their lumber mill.

Baird—Cotton Gin, &c.—J. B. Hensley will improve his cotton gin and grist mill.

Belton—Creamery.—Joseph Gray, of Temple, is reported as to establish a creamery.

Brookston—Cotton Gin.—M. G. Bean will rebuild his cotton gin reported last week as burned, and probably add a cotton-seed huller and grist mill.

Cameron—Saw and Planing Mill.—The Cameron Lumber Mills Co., which was recently organized and erected a saw and planing mill, is, it is stated, putting in new machinery.

Cisco—Flour Mill.—W. N. Porter has purchased, it is reported, the Cisco roller flour mill, and will probably operate it.

Colorado—Flour Mill.—The establishment of a roller flour mill is talked of.

Comanche—Land.—A Denver (Colo.) party is reported as having purchased 40 acres of land near Comanche for \$2,000 from J. L. Kirk, and as to improve same.

Corsicana—Artesian Well.—The city has let contract to the American Well & Prospecting Co., of Salina, Kans., for the sinking of the artesian well recently mentioned.

Dallas—Laundry.—The Logan Laundry & Manufacturing Co., lately reported as incorporated, has a capital stock of \$50,000.

Dublin—Water Works.—The Dublin Water Works Co., mentioned last week as sinking an artesian well, has been organized by Whitehead & Stancil, previously reported as having received franchise to construct water works.

Fort Worth—Laundry.—The New York Laundry, organized by L. D. Hall, W. H. Major and William Kay, is reported as having erected a steam laundry 25x100 feet.

Fort Worth—Gas Works.—The Fort Worth Gas Light & Coke Co. is reported as having erected new gas works.

Fort Worth—Distillery.—A distillery is reported as to be erected.

Fort Worth—Metal Works.—The St. Louis Expanded Metal Co., of St. Louis, Mo., is investigating with a view of establishing branch metal works in Fort Worth.

Galveston—Electric Plant.—The Galveston City Street Railway Co. is reported as to erect an electric-power plant 120x84 feet.

Greenville—Sash, Door and Blind Factory.—W. C. Cohen, of Fort Scott, Kans., is investigating with a view of establishing a sash, door and blind factory in Greenville.

Haskell—Flour Mill.—A flour mill is reported as to be established.

Houston—Car-wheel Works.—The Dickson Car Wheel Co. is increasing the capacity of its works, putting in new machinery, &c.

Houston—Land, Manufactures, &c.—A syndicate headed by Thomas J. Hurley, of Fort Worth, is reported as having purchased large tracts of land adjacent to Houston at a cost of \$1,500,000, and as to improve same, establish manufactures, &c.

Iowa Park—Planing Mill, Sash and Door Factory.—J. C. Flynn will erect, it is reported, a planing mill, sash and door factory.

Jacksonville—Buggy and Wagon Factory.—J. C. Starkey is reported as to establish a wagon and buggy factory.

Ladonia—Cotton-seed Oil Mill.—The erection of a cotton-seed oil mill is projected.

Llano—Publishing.—A \$30,000 stock company has been organized, it is stated, for the purpose of publishing the Llano Gazette.

Paris—Oil Mill.—It is stated that a cotton-seed oil mill will be built.

Rusk—Saw Mill.—A syndicate is reported as investigating with a view of erecting a saw mill with a capacity of 100,000 feet of lumber per day.

San Antonio—Cotton Gin.—The Farmers' Alliance will, it is stated, erect a cotton gin.

Sherman—Bag Factory.—The Sherman Seamless Bag Co., recently reported as incorporated, manufactures bagging, and will erect a new factory 33x110 feet, with a capacity of 6,000 bags per day. Lockwood, Greene & Co., of Boston, Mass., have prepared plans.

Sherman—Water Works.—The city is reported as to extend its water works.

Temple—Cotton seed Oil Mill.—The Temple Oil Manufacturing Co. is reported as erecting a cotton-seed oil mill.

Tyler—Oil Mill and Soap Factory.—It is proposed to operate a soap factory in connection with the cotton-seed oil mill mentioned last week.

VIRGINIA.

Blue Ridge Springs—Iron Mines.—C. W. Clark, Jr., of Philadelphia, Pa., is reported as having purchased 420 acres of iron ore land for \$9,500 near Blue Ridge Springs, and will probably develop same.

Buena Vista—Iron Furnace.—The Buena Vista Iron Co. has put in blast its iron furnace previously reported.

Buena Vista—Tin Mine.—Boston (Mass.) parties are reported as having organized a stock company to option the tin mines in Rockbridge county and operate them.

Clifton Forge—Electric-light Plant.—George Swan, R. J. James, E. G. Roberts and others are reported as endeavoring to organize a stock company to erect a \$25,000 electric-light plant.

Covington—Cement Mills.—Lewis Harman & Co. are reported as having purchased the cement mills near Mud Tunnel from Mrs. Charles Dickson, and as to operate same.

Front Royal—Iron Furnace, &c.—An iron furnace, lime works and a bakery are reported as to be erected. The Front Royal & Riverton Improvement Co. can give information.

Front Royal—Electric light Plant.—The Maryland Tack & Wire Nail Co., reported in our last issue, will probably put an electric-light plant in its factory.

Front Royal—Iron Furnaces, &c.—The Twin City Iron Co. has been incorporated with T. S. R. Flickwir, president, and D. W. Flickwir, secretary, to develop iron mines, build iron furnaces, etc. The maximum capital stock is \$200,000.

Graham—New Industries.—The establishment of a knitting mill, wagon and carriage works and a handle factory is projected. The Graham Land & Improvement Co. can give information.

Harrisonburg—Electric-light Plant.—The Harrisonburg Electric Light Co., reported last week, already has a plant in operation. The capital stock is \$10,000.

Lexington—Stove Works and Straw Hat Factory.—The stove works previously mentioned as to be established will be moved, it is stated, from Ohio. Maryland parties are reported as to establish a straw hat factory in Lexington. The Lexington Development Co. can give information.

Luray—Iron Foundry and Machine Shops.—The Luray Foundry & Machine Works has been

organized with S. R. Hoover, president; W. L. Hudson, vice president, and H. V. Hudson, secretary, to operate the Broadway Foundry & Machine Works, recently reported as to be moved from Broadway to Luray. The capital stock is \$20,000.

Manchester—Flour Mill.—Warner, Moore & Co., of Richmond, mentioned last week, have improved their Dunlop flour mills at Manchester.

Martinsville—Tobacco Factories.—Several tobacco factories are reported as to be erected.

Norfolk—Real Estate.—The Bedford Park Land Co. has been incorporated with W. F. Irvine, president; R. A. Dobie, vice-president, and P. X. Smith, secretary, to deal in real estate, etc. The capital stock is to be not less than \$50,000 nor more than \$100,000.

Norfolk—Mineral Land, &c.—The South Border Investment Co., with J. T. Ellyson, of Richmond, president; R. M. Hughes, vice-president, and H. A. Hitchcock, secretary, has been incorporated to purchase and develop mineral land, etc. The maximum capital stock is \$300,000.

Norfolk—Electric-light Plant.—The City Gas Light Co. is reported as putting new machinery in its electric-light plant.

Radford—Car Shops.—The Norfolk & Western Railroad Co. (office, Roanoke) will erect, it is stated, car shops in Radford.

Radford—Bridge.—The American Bridge & Iron Co. has received contract to construct the bridge over New river, as recently stated.

Roanoke—Gas Works.—The Roanoke Gas & Water Co. is improving its gas works, as reported in our last issue, by the addition of a new gasometer with iron tank.

Roanoke—Foundry and Machine Shop.—The American Bridge & Iron Co. will rebuild at once its iron foundry and machine shop, reported last week as burned.

Roanoke—Carriage Factory.—The Bridgewater Carriage Co., mentioned last week (under Bridgewater), will reorganize and increase its capital stock from \$25,000 to \$50,000. A new and enlarged carriage factory is to be erected by the company, and the capacity of its present plant more than doubled.

Roanoke—Bridges.—The American Bridge & Iron Co. has received contract to construct the three highway bridges at Roanoke.

Roanoke—Electric Motor Works.—The stock company mentioned in last issue as organized with R. H. Woodrum, president, to manufacture the patent electric railway motor of Mr. Black, will be known as the Southern Electric Street Car Co. The capital stock is \$500,000.

Roanoke—Brick Works.—The Roanoke Brick Co. is reported as to put in a new dry-kiln and increase the capacity of its brick works.

Savernake (P. O. Triford)—Manganese Plant.—The Savernake Manganese Grinding Co. will erect the manganese grinding plant as reported last week.

Savernake (P. O. Triford)—Improvement.—The Savernake Improvement Co. has been organized with J. H. Wayt, of Staunton, president. The capital stock is \$200,000.

Shenando—Machine Shops.—A stock company has been organized at Port Republic with E. R. Armentrout, president, for the purpose of erecting machine shops in Shenando; building to be 80x65 feet. The minimum capital stock is \$10,000.

Tazewell C. H.—Canning Factory and Laundry.—A canning factory and a steam laundry will, it is stated, be established.

Walkerton—Carriage and Wagon Factory, &c.—A carriage and wagon factory is reported as having been erected, and a cabinet and furniture factory as to be erected.

Warrenton—Land.—The East Virginia Mineral & Warrenton Improvement Co. is reported as having purchased a tract of land near Warrenton, and as to develop same.

Waynesboro—Iron Foundry.—Contract is reported as having been signed for the establishment of an iron foundry. The Waynesboro Co. can give information.

Waynesboro—Stove Works.—W. J. Loth, of Richmond, is reported as to organize the Waynesboro Stove Works to establish stove works in Waynesboro.

WEST VIRGINIA.

Charlestown.—C. C. Loeffler, of Washington, D. C., is president, and R. A. Alexander, vice president, of the Charlestown & Washington City Improvement Co., recently reported as organized. The company has purchased several hundred acres of land adjacent to Charlestown and is improving same.

Charlestown—Land Improvement, Manufacturing, &c.—The Charlestown Mining, Manufacturing & Improvement Co. has purchased large tracts of land adjacent to Charlestown, as recently stated, will improve same and offer inducements for the establishment of manufacturing plants.

Charlestown—New Industries.—It is stated that brass and iron works from New Jersey and safe distributing store and repair shops from Ohio will be moved to Charlestown. The Charlestown Mining, Manufacturing & Improvement Co. can give information.

Clarksburg—Publishing.—Edwin Maxwell, R. T. Lowndes, S. F. Reed and others have incorporated the Clarksburg Telegram Co. for the purpose of publishing a newspaper, etc.

Elkhorn—Coal Mines, &c.—Calvin S. Brice and others from Ohio, Pennsylvania and New York have organized the Elkhorn Coal & Land Co. with a capital stock of \$1,000,000.

Fairmont—Coal Mines.—A. S. McCreath, of Harrisonburg, Pa.; T. W. Fleming and others have incorporated the Paw Paw Coal & Coke Co. with a capital stock of \$140,000.

Harper's Ferry—Lime Works, &c.—The Limestone Co., lately reported as organized to manufacture lime, etc., has been incorporated.

Huntington—Machine Shops.—The Norfolk & Western Railroad Co. (office, Roanoke) will build machine shops at the new town of Kenova.

Huntington—Wire Nail Factory.—The Triple Wire Nail Machine Co., lately reported as incorporated to erect a Hastings wire nail factory in Parkersburg, will, it is stated, erect another factory in Huntington.

Keyser—Flour Mill.—L. A. Rizer has rebuilt his flour mill, as reported in our last issue.

Marion—Iron Mines.—Wisconsin parties have purchased and will develop the Glade mountain iron property, as reported last week.

Millwood—Gas and Oil Wells.—The Millwood Oil & Gas Co. has been incorporated to sink oil and gas wells.

Parkersburg—Hardware Factory.—C. B. Smith and others have incorporated the Parkersburg Hardware & Manufacturing Co. to deal in and manufacture hardware.

Parkersburg—Oil Refinery.—The establishment of an oil refinery is contemplated by Belmont and Parkersburg parties.

Piedmont—Foundry and Machine Works.—The Twin Towns Manufacturing Co. and Frank Stutzman, of Williamsport, Pa., have organized the Piedmont Machine Works and will remove to Piedmont the iron foundry and machine shops mentioned in our last issue and operate same.

Ronceverte—Iron Foundry.—The Ronceverte Machine & Foundry Co. is reported as having put a new cupola in its iron foundry.

Weston—Tannery.—The Hartley Rose Belting Co., of Pittsburgh, Pa., will, it is stated, erect a tannery in Weston.

Wheeling—Machine Works.—The Principio Forge Co. has been incorporated by W. P. Tyler, of Washington, Pa.; N. E. Whitaker, E. C. Ewing and others.

Wheeling—Tobacco Factory.—The Block Bros. Tobacco Co., reported last week as incorporated, will operate the tobacco factory of Block Bros. The factory will be enlarged and improved; capital stock \$4,000,000.

BURNED.

Aberdeen, Miss.—The plant of the Aberdeen foundry and machine shops.

Augusta, Ga.—The cotton mill of the Dartmouth Spinning Co.

Benwood, W. Va.—The barrel factory of Wilson & Dunlevy.

Cumming, Ga.—The cotton gin and machine shop of J. L. Hudson.

Fayette, Va.—The coal crushing plant of the St. Clair Coke Co.; estimated loss \$10,000.

High Point, N. C.—The grist mill of Amos Razer.

Knoxville, Md.—The Blue Ridge Creamery, near Knoxville.

Lavender, Ga.—The cotton gin, saw and grist mill of J. F. Turner.

Natchez, Miss.—The saddlery of J. H. Smoky; estimated loss \$10,000.

Oakland, Md.—The lumber mill of J. W. Lee damaged by a boiler explosion.

Raceland, La.—The sugar-house of Philip Kenner; estimated loss \$30,000.

Wagener, S. C.—The turpentine still of J. A. Gunter.

Washington, N. C.—The rice mill of the Carolina Rice Milling Co. of Wilmington.

The cotton gins of James Moore, near Aberdeen, Miss.; Wright Bros., at Holland, Texas; Hiers & Smith, Seminole, S. C.; Whitfield Fleming, near Covington, Ga.; Trulock Bros., at Little Rock, Ark.; C. S. Kennard, near Red Lick, Miss.; W. C. Simonton, at Madisonville, Texas; C. M. Wilkinson, at Adventure, near Augusta, Ga.; J. P. Mimms & Son, at Cleburne, Texas.

HAVE you real estate notes, municipal or county bonds that you want to convert into cash? If it is a Southern note or bond you can advertise it free, four times, in the MANUFACTURERS' RECORD.

Building Notes.

Americus, Ga.—Masonic Temple.—The building previously reported as to be built by the Masons will cost \$30,000.

Annapolis, Md.—F. M. Ramsay, chief of Bureau of Navigation, Washington, D. C., will receive proposals until December 29 for the erection of two brick buildings on the Naval Academy grounds.

Aransas Pass, Texas.—S. B. Sonenson is reported as to erect a brick building.

Aransas Pass, Texas—Bank Building.—The First National Bank will erect a building.

Ashland, Ky.—Opera-house, etc.—A \$30,000 stock company has been organized by the Independent Order of Odd Fellows to build the opera-house and hall building lately mentioned.

Atlanta, Ga.—Op-er-a-house.—A company is reported as formed for the purpose of building an opera-house to cost \$300,000.

Atlanta, Ga.—Church.—The members of the Second Baptist Church contemplate building an edifice.

Atlanta, Ga.—Clubhouse.—The 1890 Club contemplate building a three or four-story clubhouse.

Atlanta, Ga.—Hall.—The Independent Order of Odd Fellows contemplate building a hall.

Baltimore, Md.—Clubhouse.—The Young Men's Democratic Club, of South Baltimore, contemplates building an \$8,000 clubhouse. R. J. McCuen can give particulars.

Baltimore, Md.—A building permit has been granted to J. O'Neal for the erection of a three-story houses.

Braunton, Texas—Courthouse.—The building of a courthouse is proposed.

Blacksburg, S. C.—School Building.—The city will probably build a schoolhouse.

Breckinridge, Texas.—The members of the Cumberland Presbyterian Church will, it is stated, build an edifice. J. J. Ward can give particulars.

Bristol, Tenn.—Courthouse.—A courthouse will probably be built.

Bristol, Tenn.—School Building.—The erection of a school building to cost \$10,000 at Bristol, Va., is contemplated.

Brownwood, Texas—Hotel.—The erection of a hotel, 75x185 feet, is contemplated.

Chattanooga, Tenn.—C. Woodworth has let contract for the building of a \$7,000 brick house, and Mr. Feugett for a \$6,000 brick house.

Chickamauga (P. O. Crawfish Springs), Ga.—Philadelphia parties are reported as to build several two-story buildings. Townsend & Stone, of Chattanooga, Tenn., have prepared plans for a residence for Mrs. J. M. Lee.

Clanton, Ala.—Courthouse.—Chilton county will probably build a courthouse. The county clerk can give information.

Cobb's Island (P. O. Bayview), Va.—Hotel.—The company previously reported as to be organized by J. F. Slaughter and R. L. Miller, both of Lynchburg, with a capital stock of \$250,000, to build a \$100,000 hotel, will be known as the Cobb's Island Co.

Comanche, Texas—Bank Building.—The First National Bank intends erecting a building to cost \$16,000.

Cordele, Ga.—Academy.—A building will be erected to replace the Stewart Academy, recently burned.

Corpus Christi, Texas—College.—Col. E. H. Ropes has donated the Methodist Church a site on which to build the college lately mentioned. The building is to cost not less than \$40,000.

Cuero, Texas Hotel.—The building of a hotel is contemplated.

Dallas, Texas—Orlopp & Kusener, of Little Rock, Ark., are preparing plans for the erection of a five-story building for the Merchants' Exchange to cost \$60,000; for a five-story office building for R. B. Tompkins to cost \$50,000, and for a six-story building for T. Scallard.

Dayton, Tenn.—Hotel.—The Dayton Railway, Land & Improvement Co. intends building a hotel to cost \$50,000.

Denison, Texas—School Building.—Edward Perry is reported as to erect two school buildings to cost \$15,000 each.

East Chattanooga, Tenn.—Church.—The Presbyterians contemplate building a church.

Elberton, Ga.—Masonic Temple.—The Masons will, it is stated, build a Masonic temple.

Elkhorn, W. Va.—School Buildings.—Contract will probably soon be let for the erection of three school buildings. Alfred Reddington can give information.

Fayette C. H., Ala.—Courthouse and Jail. Fayette county will probably build a courthouse and jail.

Franklin, La.—Hotel.—J. A. Morris and others contemplate building a hotel to cost from \$10,000 to \$20,000.

Georgetown, Ky.—College.—A \$35,000 college will, it is stated, be built.

Gordonsville, Va.—Hotel.—Fava, Naef & Co., of Washington, D. C., have contract for building a \$40,000 hotel.

Greenville, Texas—Church.—The Baptists intend building a church to cost \$7,000.

Greenwood, S. C.—Warehouse.—The Alliance Warehouse Co. has been organized with J. A. Marshall, president.

Groesbeck, Texas.—The Groesbeck Building & Loan Association has been incorporated with a capital stock of \$25,000.

Hardinsburg, Ky.—Jail.—A jail is to be built by Breckinridge county. The county clerk can give information.

Hill City, Tenn.—A \$20,000 stock company will be formed for the purpose of erecting a three-story brick building.

Hot Springs, Ark.—Hotel.—Chicago parties will, it is stated, build a hotel. Oliver Lippincott, Jr., of Chicago, can give information.

Houston, Texas.—W. T. Ford will build a \$5,000 residence.

Johnson City, Tenn.—The Mechanics' National Building & Loan Association has been organized.

Knoxville, Tenn.—C. C. Johnson and S. Deaver are each reported as to erect brick buildings.

La Grange, Ga.—W. W. Goodrich & Son, of Atlanta, have prepared plans for the building of residences for Leslie Dallis and E. R. Bradfield.

Lexington, Ky.—Club Building.—The Lexington Turf Club contemplates erecting a building to cost \$25,000.

Middlesborough, Ky.—Clarence Cary, of New York, will erect a three-story brick building.

Morgantown, N. C.—Hall.—The Young Men's Christian Association intends building a hall.

Morgantown, W. Va.—I. C. White contemplates building a residence to cost \$25,000.

Nashville, Tenn.—Church.—The members of the Elm Street Methodist Church contemplate building an edifice to cost \$60,000. Rev. R. A. Young can give information.

Nebo, Ark.—Hotel.—The Summit Park Hotel Co. will, it is stated, build a fifty-eight room addition to its hotel at a cost of \$10,000.

Newport, Tenn.—Hotel.—The Southern Iron & Timber Co. will build a hotel on English Mountain on the completion of its railroad mentioned elsewhere in this issue.

Radford, Va.—Church.—The Presbyterians contemplate building a church.

Red Springs, N. C.—Hotel.—A company has been formed by R. M. Nimocks, of Fayetteville, and S. R. & W. B. Townsend for the purpose of building a hotel.

Richmond, Va.—Hall.—A. W. Archer, J. T. Ellyson, J. W. Thomas and others have been appointed a committee to report upon the expediency of building a hall for Lee Camp.

Roanoke, Va.—Hotel.—The Cave Heights Roanoke-Salem Land Improvement Co., recently organized, proposes building a hotel.

Roanoke, Va.—Church.—An edifice will be built for the Northside Methodist Church.

Roanoke, Va.—The Magnolia Land & Building Co. has been organized with Ferdinand Hannabuss, president; C. A. Heath, secretary, and Thomas Smith, treasurer.

Savannah, Ga.—The Workingmen's Building & Loan Association has been incorporated by J. C. Williams, R. Barnes, T. T. Sanders and others. The capital stock is \$5,000.

Savannah, Ga.—School Building.—A school building for the public school is reported as to be erected.

Seymour, Texas—A building and loan association has been organized.

Staunton, Va.—A building and loan association is being organized by Richard Apperson.

Texarkana, Texas—Courthouse.—A courthouse is reported as to be built by Bowie county. The county clerk can give information.

Vernon, Texas—College.—The Baptists contemplate building a college.

Warrenton, Va.—Hotel.—C. N. Rosenberger will receive plans, etc., for building the \$50,000 hotel of the East Virginia Mineral & Warrenton Improvement Co., previously reported.

Wheeling, W. Va.—Bank Building.—The City Bank contemplates erecting a five-story building 35x90 feet.

Winchester, Va.—Hotel.—Contract has been let for the building of a \$100,000 hotel for the Equity Improvement Co., previously reported. J. F. Denison, of Washington, D. C., prepared the plans.

Winston, N. C.—The Chamber of Commerce will, it is stated, erect a building.

Woodbury, Ga.—Depot.—The Macon & Birmingham Railroad Co. (office, Macon) contemplates building a depot to cost \$5,000.

It is reported that the Duke of Marlborough has secured options on large bodies of mineral and timber lands in Tennessee and Alabama, and that he will undertake to form an English company to develop them on a large scale. The building of a big industrial town is a part of the project.

A Busy Week in the South.

The past week has been a very busy one in the South, and the prospects are bright for great activity during the winter and spring. The well-rounded development goes steadily on, and enterprises of great magnitude, as well as smaller ones, are being organized daily, while capitalists from the North and from Europe are investigating in many places with a view to heavy investments in railroad, in manufacturing and in town building enterprises. At a meeting of the stockholders of the Greensboro Steel & Iron Co., of Greensboro, N. C., it was unanimously resolved to contract at once for the construction of a large Bessemer iron furnace, which will mark the beginning of the coke-making iron interests in that State, except in an experimental way. At Richlands, Va., \$1,000,000 tube works are to be built by American and foreign capitalists; Cardiff, Tenn., is to have basic steel works; a new furnace has been contracted for in Tennessee; a \$1,000,000 land and improvement company has been organized at Morristown, Tenn.; in West Virginia two coal mining and coking companies have been chartered, one with a capital of \$1,000,000 and the other \$140,000; Arkansas has a new \$100,000 coal mining company; Florida a \$40,000 fibre manufacturing company; Houston, Texas, a new \$1,500,000 land and development company; Wheeling, W. Va., a \$4,000,000 tobacco manufacturing company; Front Royal, Va., a \$200,000 iron company; Saverlake, Va., a \$300,000 improvement company; Milledgeville, Ga., a \$100,000 water works company; Covington, Ky., a \$50,000 buggy manufacturing company; Alabama, a \$500,000 oil and natural gas company; Roanoke, Va., a \$500,000 street railroad building company; Luray, Va., a \$30,000 foundry company; Norfolk, Va., a \$1,000,000 land improvement company and a \$300,000 company. These are but illustrations of what the record for the week shows, but they indicate how widespread is the activity and how wide the diversity of the enterprises organized. The new year bids fair to show a wonderful degree of industrial activity from the Potomac to the Rio Grande.

MR. JACKSON HOLLAND, the extensive builder and contractor of this city, has taken the Baltimore agency for the Antietam Manufacturing & Land Improvement Co., which proposes to build a great industrial town at Shenandoah Junction, the crossing point of the Baltimore & Ohio and the Shenandoah Valley line of the Norfolk & Western. The leading officials of the Baltimore & Ohio Railroad are greatly interested in this new town and stand ready to do all in their power to push it forward, while the Norfolk & Western people will deal with it as liberally as they do with all towns along their rail. Shenandoah Junction, or Antietam, as it will be called, is thus fortunate in having these two great railroad systems to back it. The MANUFACTURERS' RECORD learns that the enterprise has been received with great enthusiasm and that letters are pouring in from all over the country regarding it. The entire stock, we learn, will probably be placed very promptly, notwithstanding the money market's tightness, and negotiations are now pending for almost all the stock not yet taken.

In rude rhythm our Saxon forefathers were wont to sing "Christmas cheer comes but once a year," and their descendants in all lands "the strains prolong" at every annual return of the one universal festival of the world. Joining in this general jubilee, the MANUFACTURERS' RECORD extends to its readers in America and Europe most hearty wishes for a Merry Christmas to each and to all.

\$7 a Ton Pig Iron.

The MANUFACTURERS' RECORD has in its possession a report made by one of the leading members of the British Iron and Steel Institute, an expert of the highest standing, on an iron ore property in the South, which, he says, is more valuable than the Cornwall property of Pennsylvania or any of the Lake Superior ore properties. This report says that the ore can be mined for 30 cents a ton, and that pig iron can be made at that point for *seven dollars a ton*. These are strong statements, but they are made by a man of world-wide reputation in iron matters.

The Storage Warrant System.

Somewhat more than a year ago gentlemen interested in Southern pig iron production organized a storage warrant system based upon that which originated in Scotland. There was considerable discussion about the enterprise at that time, and American furnace men seemed to be pretty evenly divided in their opinions concerning it. Those who favored the plan argued that iron was as good as wheat or corn, and that consequently warrants issued upon stored iron would as readily obtain money from the banks as do grain certificates. They favored the plan for the further reason that when prices were off or the demand was light it would enable producers to obtain money enough for current expenses without sacrificing their profits. This would help furnaces to continue production and to keep their working forces together, and thus be prepared to take advantage of a revived demand. It would certainly protect weaker producers from being forced to abandon the business, and the storage yards would be an assurance to consumers that they could always depend upon an ample supply for quick delivery whenever an emergency arose. The success of the storage system in Scotland was adduced as proof that it would be equally useful here.

The chief objections made to the introduction of the system in this country were: First, that it was not needed. Iron-masters had got along without it and would always do so. When trade was good and prices were fair, furnaces would do a good business. When trade was depressed and there was no chance to make money, they could do as they always had done, "blow out and bide their time."

The second ostensible reason was that the issue of warrants in large numbers would soon make pig iron as much of a speculative commodity as wheat; that warrants would furnish materials for gambling similar to warehouse and oil certificates, and that this would change a business that had always been conducted in a conservative fashion into one of dangerous artificial fluctuations. It was said, furthermore, that while in Scotland there were but three or four

grades of iron, so that the holder of warrants was always able to procure exactly the quality they called for, that could never be the case in this country because of the many different qualities of pig produced. Neither mill nor foundry men would know, when they drew iron from the storage yard, whether what they received was what they needed until they had tested it, and then it would be impossible for them, if the iron proved unsuitable, to recover what they might have lost. This would soon cause both producers and consumers to look upon the system with disfavor, and the owners of the storage yards would find their business unprofitable.

Up to the present time, so far as our information goes, none of the evils predicted have come to pass. The storage system, to all appearance, at least holds its own. It will require a continued experience of its workings to determine which view of the system was the right one. At present the preponderance of evidence appears to be in its favor.

North Carolina's First Coke Iron Furnace.

[Special dispatch to MANUFACTURERS' RECORD.]
GREENSBORO, N. C., Dec. 16, 1890.

Large and enthusiastic meeting of stockholders of North Carolina Steel & Iron Co. to-day instructed the directors to proceed with erection of blast furnace early as practicable. Other industries contemplated, and Greensboro's boom's success assured.

The MANUFACTURERS' RECORD congratulates Greensboro upon this step, which will insure the building at that town of the first large furnace ever established in that State. This furnace will make Bessemer pig iron, using high-grade Bessemer ores from the celebrated Ore Hill property. The Greensboro Steel & Iron Co. has a splendid property, consisting of 2,200 acres of town-site land adjoining Greensboro, and about 1,800 acres of ore land in which experts say there is 40,000,000 tons of ore that can be mined at less than 50 cents a ton. Greensboro is so admirably located and has such excellent transportation facilities, six railroads centering there, that there ought to be no trouble in making it one of the leading industrial centers of the South.

Senator Cameron Against the Force Bill.

I will vote against the election bill whatever form it may assume. I am opposed to it in principle and in its details. The South is now resuming a quiet condition. Northern capital has been flowing into the South in great quantities; manufacturing establishments have been created and are now in full operation, and a community of commercial interests is fast obliterating sectional lines, and will finally result, in the not far distant future, in forming one homogeneous mass of people, whether being in the North, South, East or West. The election law would disturb this desirable condition and produce ill-feeling between the North and South. I am, therefore, opposed to the bill, and shall assert my independence as a Senator and cast my vote against the measure.—Interview in the Boston Transcript.

Southern Immigration.

BUFFALO, N. Y., Dec. 13, 1890.

Editor Manufacturers' Record:

Knowing the deep interest you take in the prosperity of the South, I venture to make you the following statements: For 18 months I have been trying to form colonies of Northern and Eastern workingmen to go South and take up farm lands in 100 acre tracts.

I am in receipt of a letter, dated this month, from a skilled iron worker of Boston, to whom I had written and urged his raising a colony of 50 or 100 families. This person is a man of influence among his fellow-workingmen, and in his reply he says: "I like your plan, and so do all the men I have mentioned it to. We are all anxious to better our condition and to earn a home for ourselves, but what can we do? Our wages have been so small that we cannot lay up anything, and have no money to pay on a farm. Then, if we went there, we would have to have seed and provisions, and be carried until we could produce our crop. True, we are all sober, industrious and anxious to get a farm, but how can we do it under our present circumstances?" This, Mr. Editor, is but one of many similar statements that have been made to me during the past 18 months. Here are a class of good citizens that will make any town, county or State into which they locate better for their presence. They are not poor white trash in the sense that some people understand it, but intelligent and skilled mechanics who are anxious to earn a home for themselves. If they were located near some large Southern manufacturing industry they would benefit it. How to use this valuable element has been a problem for solution, and I would suggest the following plan: Let there be organized a stock company with \$50,000 capital, in shares of \$50, for the purpose of assisting immigration of this class of industrious citizens. When a colony is organized let the stock company locate them on a tract of land equal to 100 acres for each family in the colony, and sell the land to the colonists at a certain agreed price, the company to establish a general supply store with each colony, and furnish seed, tools, provisions, etc., to the colonists at a price not to exceed 20 per cent. profit, or as cheap as they could get the same goods from others. Then allow the colonists to pay for their land at the rate of \$1 per acre per year, with interest at legal rates. This would be a perfectly safe and profitable business for the company, and would be of great benefit to the South, as well as enabling a large class of industrial mechanics and persons to get a home and farm for themselves. I should be pleased to have any persons in the South communicate with me on the subject. If the company will organize I can furnish the colonists.

R. H. FERGUSON.

The Menasha Wood Split Pulley Co. received orders last week for their hickory split pulleys for rope transmission from the Racine Flour Mills and John Rice & Bros., of Benoitville; H. Friend Paper Co., West Carrollton, Ohio; Walter Rawson, Rawson, Iowa, and Hawley Bros., Brownton, Minn.

"MONEY WANTED" advertised free of charge by the MANUFACTURERS' RECORD.

IF you contemplate starting a new enterprise of any kind, whether it be a railroad, an iron furnace, a rolling mill, a machine shop or foundry, electric-light, water or gas works, saw mill, planing mill, furniture factory, fertilizer factory, cotton mill, or anything else requiring machinery of any description, send particulars to the MANUFACTURERS' RECORD. A postal card giving character of enterprise and kind of machinery wanted will be all that is needed. It will prove of great benefit to you.

THE HOUSE SHIPPING BILL.

Its Chief Provisions Explained by Chairman Farquhar.

Colonel Farquhar, chairman of the House committee on merchant marine and fisheries, has reported a composite bill that has been agreed upon by the majority of that committee as a substitute for the Senate tonnage and subsidy bills. Two days next week have been set apart for the consideration of this important and thoroughly non-partisan measure.

To a member of the MANUFACTURERS' RECORD staff Colonel Farquhar said: "In our report accompanying the bill we assume that an American marine, built, manned and used by American people, is a national requirement, essential to a fair participation in the trade of the world, indispensable to a wise industrial economy of State and vital to the independence and defence of the country. We have made sundry modifications in this composite bill to meet reasonable objections to some features of the original bills, and have made this as nearly perfect as present circumstances would permit. There is a distinction in favor of voyages of a thousand miles or less which will cover the business with the West Indies, Mexico and Central America. Over 70 and under 500 miles the bounty will be 10 cents, without regard to distance sailed. Over 500 and under 1,000 miles it will be 20 cents. This adjustment is equitable to both Northern and Southern ports, and it assures an increased development of trade between the United States and our near foreign neighbors. It will be of special value to the merchants and ship-owners of the Gulf and South Atlantic ports.

A distinction is made in favor of steamers above 11 knots speed to induce the building of larger and swifter ships than are now used in our steam marine.

The limit of 1,000 miles was adopted to commence with. If it should be found insufficient it can be increased hereafter. A safeguard against imposition is provided in the requirement that no vessel shall be entitled to the benefits of the act unless its entire cargo shall be loaded at a port of the United States and discharged in one or more foreign ports, or loaded abroad and discharged here. There are other valuable requirements, such as that demanding that all the officers and certain percentages of the sailors shall be citizens of this country, and that other, which requires that the plans of the vessels of more than twelve knots hereafter built must be submitted to the Secretary of the Navy for approval, that thus ships may be provided structurally adapted to conversion into auxiliary cruisers or transports for the naval service. The greatest benefits derived from the passage of this measure," said Chairman Farquhar, "will go to the farmers and miners.

The increase in shipping will make a large market for agricultural products of every description, while the compulsory clause respecting the entire cargo will compel the ship-owner to buy grain or some other staple of agriculture to be sold abroad, so as to load his ship to its full capacity that he may be entitled to the bounty.

The bounty paid will enable our coal and iron miners to send their products abroad in profitable competition with foreign producers, while all engaged in trade with the West Indies, Mexico and Central America will get the advantage of lower freights both ways. I do not hesitate to say that I believe that if this measure should be adopted and continue in effect for five years, it would be impossible at the end of that period to find a single opponent of the system, for by that time its efficacy will have been proven to the entire satisfaction of the country."

Literary Notes.

AMONG the many attractive publications of this festive season is "The Colonel's Christmas Dinner," by Capt. Charles King, from the press of L. R. Hamersley & Co., of Philadelphia. The writer introduces in his usual style a most diversified array of character, and gives the reader a truthful picture of military life in a fort garrison on the frontier. The stories told at "The Colonel's Christmas Dinner" by the various officers doing duty at the fort form a most interesting collection, and the bright and sparkling style of each makes the work a most enjoyable one.

CLAD in a vesture of scarlet and white, printed on fine paper in attractive type, and sent out from the Riverside Press, James Russell Lowell's charming poem, "The Vision of Sir Launfal," is one of the Christmas-gift books of the year. The illustrations are photogravures, pleasing to uncritical eyes perhaps, but having little if any appreciable relation to the poem. The frontispiece is a copy of a crayon portrait of Mr. Lowell, drawn in 1842 by William Page, which will be prized by a multitude of admirers in this country and England, who will rejoice to read in the bright young face the promise of that genius which has made James Russell Lowell famous as a poet and a statesman in the homes and hearts of all English-speaking people.

POPULAR SCIENCE MONTHLY, a periodical of peculiar value in its special field, will, in the January number, treat of several themes of more than ordinary interest. Dr. Andrew D. White will begin the discussion of the "Warfare of Science," with a chapter entitled "From Babel to Comparative Philology," in which is given the origin of the legend respecting the attempt to build the famous tower and the accompanying confusion of tongues. It also traces the early history of the belief that Hebrew was the only language spoken by God and men before Babel was undertaken. Mr. William F. Durfee contributes a second article on iron and steel, the special topic being iron mills and puddling furnaces. This, like the former article, is liberally illustrated. Professor Huxley furnishes the first of two chapters upon "The Aryan Question and Prehistoric Man." The second chapter will appear in February. "The Storage of Electricity" will be explained and illustrated by Professor Samuel Sheldon, of the Brooklyn Polytechnic Institute.

A TRANSLATION of Weddinger's Basic-Bessemer Process, the acknowledged authoritative work on the basic-Bessemer or Thomas process, has been translated from the German and is now for sale to American metallurgists. The Scientific Publishing Co., having secured the rights of publication in the United States, employed as translators William B. Phillips, Ph. D., late professor of mining and metallurgy in the University of North Carolina, and Ernst Prochaska, Met. E., late engineer of the Basic Steel Works, Teplitz, Bohemia, and more recently of the works of the Pottstown Iron Co., of Pennsylvania. This book, bound in cloth, contains 222 pages, and is profusely illustrated. The ten chapters cover the whole subject from early dephosphorizing methods down to the economical results of the basic-Bessemer process. An appendix discusses the desulphurization of pig iron, and in a supplementary chapter Mr. Prochaska treats of dephosphorization in the basic open-hearth furnace. The work is admirably executed. The engravings, with the accompanying explanations, will be understood by practical furnace men and machinists, while the various processes are so clearly described that none need be at fault concerning them. The great abundance of basic ores

in the South, and the general adoption of this system in England and on the continent, have created a profound interest in the basic-Bessemer process which this book appears in good time to satisfy. Price \$3.50. Address the Scientific Publishing Co., 27 Park Place, New York. The same house will shortly issue a second edition of that famous book, Howe's Metallurgy of Steel, the first having been exhausted.

THE FORUM for 1891 will strive to continue to merit the reputation it has acquired as "the foremost periodical for thoughtful readers." Among the features for the new year will be: "Results of the Census," a series of articles by Gen. Francis A. Walker; "Results of the Latest Research and of the Most Recent Achievements in all Important Lines of Work, in Science and in Industry," by specialists; "Political Discussions," by the leaders of opinions in the United States, and by foreign statesmen; "Shibboleths of the Time," a series of critical examinations of popular opinions, by W. S. Lilly, the British essayist; "Autobiographical Essays," a series to which some of the most noted men of the time, American and British, have already contributed; "Discussions of Social and Religious Problems in the United States;" "Literary Articles," discussing the tendencies of literary work along all directions of activity, by the foremost critical writers. The newspapers from all parts of the country, of every party, sect and kind, are read with care, that The Forum may keep constantly in touch with the people. Subscription \$5.00 a year. Single copies 50 cents. Address The Forum, 253 Fifth Avenue, New York.

THE SONG OF HIAWATHA, that one poem in which all that was beautiful in the myths and beliefs of the American Indians was preserved in immortal verse by the genius of Longfellow, has this season been arrayed in a new and most tasteful dress by Houghton, Mifflin & Co., Boston and New York. There have been other illustrated editions of this poem, but none equalling this new volume, for which Frederick Remington created the designs. Of its material and mechanical execution it is sufficient to say that it comes from the Riverside Press, which invariably maintains its high reputation for first-class work. It is an octavo bound in undressed kid, which makes a tasteful and desirable cover. The reputation of Mr. Remington for accurate knowledge of Indian types and extraordinary skill in depicting them is widespread and firmly established. He delineates these American nomads with an honesty of purpose and an accuracy and skill of execution that interpret their peculiarities of character, modes of life, barbarous and superstitious customs with an excellence that no other artist has at all approached. Referring to these illustrations the introduction says: "Mr. Longfellow made Indian pictures in verse, and Mr. Remington has made Indian pictures in design, studying to make them correspond in spirit with the poet's conception, but not attempting to square the poet's description with the actual realities of Indian life as he knows it by actual observation." Besides the illustrations proper there are pen and ink sketches freely distributed on the broad margins of the text pages. These are "faithful representations of a large number of actual objects in use among Indian tribes, or associated with their life." All admirers of the work of Henry W. Longfellow, as well as all interested in that race which once peopled this continent, will prize this latest edition of The Song of Hiawatha.

TO SOUTHERN corporations, bankers and brokers: The MANUFACTURERS' RECORD will give investment offerings four insertions free, announcements not to exceed one inch in space.

MACHINERY WANTED.

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Bed Springs.—E. T. Short & Co., Big Stone Gap, Va., want machinery for making bed springs.

Boiler and Engine.—E. T. Short & Co., Big Stone Gap, Va., want a 15 or 20 horse-power boiler and engine.

Boiler and Engine.—M. G. Bean, Brookston, Texas, wants a 40 horse-power engine and a 60 horse-power boiler.

Boiler and Engine.—The Maryland Tack & Wire Nail Co., E. V. Cordell, president, Front Royal, Va., will purchase a boiler and engine.

Boiler and Engine.—The Bridgewater Carriage Co., Roanoke, Va., wants a boiler and engine.

Boilers.—R. W. Kindel, Weatherford, Texas, wants two 60 horse-power 3-inch flue boilers.

Brick Machinery.—S. B. Shipley, Celina, Ohio, wants catalogues of brick machinery.

Brick Machinery.—C. M. Wenner, Brunswick, Md., will want brick-making machinery.

Burr-stone.—Neely & McCord, Pulaski, Tenn., will purchase a small corn burr.

Canning Factory.—Foster & Adams, Lebanon, Tenn., want estimates on a canning factory.

Cars.—The Mobile Street Railway Co., Mobile, Ala., wants 25 motor cars for electrical railroad.

Clock.—J. A. Mills, Keyser, N. C., wants a watchman's clock.

Cotton Press.—R. G. Patterson, Somerville, Tenn., wants a cotton press.

Dry-kilns.—Milmo, Stokoe & Co., Jeannerette, La., want prices on dry-kilns.

Dry-kiln.—The Bridgewater Carriage Co., Roanoke, Va., wants dry-kiln.

Dummy Line.—The Griffin Street Railway Co., Griffin, Ga., wants bids for the building of a dummy line.

Dynamos.—R. W. Kindel, Weatherford, Texas, wants two 450 to 500-light incandescent dynamos, and a 40-light arc dynamo.

Electric-light Plant.—A. Zeitinger & Son, Della, Md., want electric-lighting machinery and motors.

Electric-light Plant.—The Maryland Tack & Wire Nail Co., E. V. Cordell, president, Front Royal, Va., will probably purchase an electric-light plant.

Electric Plant.—The Mobile Street Railway Co., Mobile, Ala., wants a power plant to operate street railway by electricity.

Elevator.—The Bridgewater Carriage Co., Roanoke, Va., wants an elevator.

Engine.—The City Illuminating Co., Murfreesboro, Tenn., wants an engine for running dynamo.

Engine.—R. W. Kindel, Weatherford, Texas, wants a 75 horse-power automatic engine.

Excelsior Machines.—E. T. Short & Co., Big Stone Gap, Va., want several double excelsior machines.

Exhaust Fan.—The Bridgewater Carriage Co., Roanoke, Va., wants an exhaust fan, hot and cold blast.

Fire Department Equipment.—E. A. Snow, secretary Board of Fire Commissioners, High Point, N. C., desires to correspond with manufacturers of hook and ladder equipment for fire department.

Heating Apparatus.—The Maryland Tack & Wire Nail Co., E. V. Cordell, president, Front Royal, Va., will purchase heating apparatus.

Laundry.—J. H. Adams, Jr., Eatonton, Ga., wants estimates on complete outfit for a steam laundry.

Mattresses.—E. T. Short & Co., Big Stone Gap, Va., want machinery for making mattresses.

Piping.—The McGregor Artesian Water Co., McGregor, Texas, wants piping for mains and sewers.

Piping.—The Dublin Water Works Co., Dublin, Texas, wants piping.

Planing Mill.—C. M. Wenner, Brunswick, Md., will want machinery for a planing mill.

Press.—E. T. Short & Co., Big Stone Gap, Va., want a baling press.

Punch.—J. Lyle Clark, 39 S. Gay street, Baltimore, Md., wants information concerning a punch to work a 1/4-inch hole in a 1/4-inch pine board.

Roofing.—The Bridgewater Carriage Co., Roanoke, Va., wants iron roofing.

Saw.—E. T. Short & Co., Big Stone Gap, Va., want a cut-off saw.

Sewer Pipe.—T. W. Ross, Gordonsville, Va., wants 500 feet of 18-inch diameter sewer pipe.

Shafting, etc.—The Maryland Tack & Wire Nail Co., E. V. Cordell, president, Front Royal, Va., will purchase hangers, pulleys, shafting, etc.

Stand-pipe.—The McGregor Artesian Water Co., McGregor, Texas, will want a stand-pipe.

Stand-pipe.—The Dublin Water Works Co., Dublin, Texas, wants a stand-pipe.

Tooth-pick Machinery.—The Border City Wood Package & Canning Co., Fort Smith, Ark., wants prices on machines for cutting tooth-picks.

Water Works.—The Brunswick Water Co., C. M. Wenner, president, Brunswick, Md., will probably want a complete outfit, machinery, etc., for water works.

Woodworking Machinery.—E. T. Short & Co., Big Stone Gap, Va., want a small outfit of woodworking machinery.

Woodworking Machinery.—The Bridgewater Carriage Co., Roanoke, Va., wants woodworking machinery.

The Basic Steel Patents.

Fifty millions of money were represented at a meeting of iron and steel manufacturers held this week at the Hotel Lafayette in Philadelphia. Andrew Carnegie, the Illinois Steel Co., the Cambria Iron Co., the Pennsylvania Steel & Iron Co. and the Thomas Iron Co. were represented. These parties are owners of mills of an annual capacity of 1,600,000 tons of steel rails. They are also the chief stockholders in the Steel Patents Co., which owns the rights for this country in the Bessemer and basic steel patents. A number of important patents connected with both processes are about to expire, and the question under consideration was what could be done to prevent any considerable competition.

There are seven mills in Pennsylvania which manufacture Bessemer steel rails. They are: Carnegie's at Pittsburgh, the Thomas Iron Co. at Bethlehem, the Pennsylvania Steel & Iron Co. at Harrisburg, the Cambria Iron Works at Johnstown, the Lackawanna Coal & Iron Co. and the Scranton Steel Works, both at Scranton, and the Alleghany Bessemer Steel Co. at Alleghany, which was recently purchased by Carnegie for \$2,000,000. Practically there are now but six firms. The combined product last year was 1,103,451 net tons of Bessemer steel rails. Illinois turned out 522,054 net tons of Bessemer rails in 1890, and they all practically came from the Illinois Steel Co. Only 22,194 tons of rails were made by all the other States in the country last year. The Illinois people and the four Pennsylvania firms in the Patents Co. are anxious to get hold of the Lackawanna Coal & Iron Co. and the Scranton Steel Works, thus reducing the number of mills in the whole country to five, which are part owners of the important patents.

The chief subject of discussion, as stated by one of those who attended the meeting, was the relation of the basic process and manufacturers outside of the Steel Patents Co. All of what was done at the meeting, to which reporters were not admitted, is not known, but it is semi-officially stated that it was decided to sell to outsiders the right to use the basic process upon the payment of a royalty of \$1.00 per ton.

"I have no doubt," said a member of the company to the reporter of the Philadelphia Record, "that the action of our body will start many mills into a new channel, and especially in the South, where the development of natural resources is going on rapidly. We have been considering this thing for a year or more, but could never agree upon the amount of royalty that should be charged. I think \$1.00 per ton is low."

As the basic patents will expire within two or three years, this is apparently a movement under the guise of a liberal arrangement to enable the company to get back in royalties what it paid for the patents that it has so long prevented the South from using.

Hercules Ice Machines

FOR

Ice Making, Cold Storage, Packing Houses, Breweries, &c.

Send for our new illustrated circular.

Hercules Iron Works, - - - Chicago, Ill.

FIRE! FIRE!! FIRE!!!

On November 6 the manufacturing part of our works was almost totally destroyed by fire. The unprecedented heavy trade for the entire season found us short on stock and long on orders. Fortunately we had already purchased a site commensurate with the demands for Nubian at Cragin, a Chicago suburb, to which we anticipated moving in a few months. Our fire will simply expedite this removal. We have a full force at work, and expect by November 15 to 20 to commence filling orders. In the meantime we beg our customers to have a little patience. We will divide up what stock we have, so as to give everybody a little. Thanking you for past favors and assuring you we will endeavor to merit a continuance, we are,

Very truly,

THE NUBIAN IRON ENAMEL CO.

163 Sangamon St., Chicago.

Collins Supply Agency, Louisville, Ky.

THE FRED. W. WOLF COMPANY,

Sole American Manufacturers of

The Linde Ice & Refrigerating Machinery.

FACTORY:

302 to 330 HATHORN AVE.,

OFFICES:

556 to 566 N. HALSTED ST.

CHICAGO, ILL.

Brewery Work and Cold Storage our Specialty. Plans and Estimates Promptly Furnished.

RAEDER, COFFIN & CROCKER,
ARCHITECTS

Rooms 916-919, 218 Lasalle Street, Chicago.

Special Designers of Industrial Plants.

Completely Equipped Shops, Foundries, Warehouses, Cotton and Woolen Mills, Grain Elevators, &c.

HENRY RAEDER, Architect; A. S. COFFIN, B. S. CROCKER, Engineers.

C. R. MAKEPEACE & CO.
ARCHITECTS and MILL ENGINEERS

Pittsburgh, Pa. Plans, Specifications and Estimates furnished for Cotton and Woolen Mills.


THE BROUGHTON MIXER
 FOR
 Wall Plaster and Fertilizers.
 MANUFACTURED BY
W. D. DUNNING,
 96 W. Water St., Syracuse, N. Y.
 SEND FOR CIRCULAR.

The Boomer & Boschert

HYDRAULIC

PRESS

FOR BALING

Cloth, Paper, Yarn, &c.

Or for any other purpose requiring great pressure.

BOOMER & BOSCHERT PRESS CO.

329 W. Water St., Syracuse, N. Y.

DREW, BALDWIN & CO.

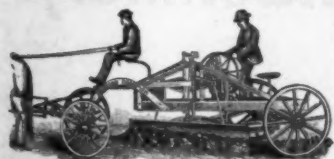
COTTON MILL

Architects and Engineers,

45 Broadway, New York.

CONTRACTORS

This Machine Moves Dirt 2 Cents Per Yard.



PRICE ONLY \$250. For particulars write to

The Southern Equipment Co.
 CHATTANOOGA, TENN.

LOCKWOOD, GREENE & CO.
Mill Architects and Engineers,

131 Devonshire Street, Boston, Mass.

SPECIALTY:

Plans, Specifications and Superintendence for the Construction, Equipment and Organization of Cotton, Woolen, Worsted and other Textile Mills.

GRAY & FITCH,

MILL ARCHITECTS & ENGINEERS,

204 Essex Street, Lawrence, Mass.

Plans executed for the best modern mill construction. Especial attention given to arrangements of power plants, shafting, etc.

Nier, Hartford & Mitchell,
ENGINEERS,

Water Works, Sewerage, Electrical Works and Municipal Improvements.

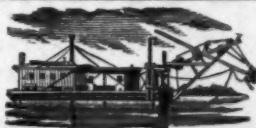
Richardson Block, CHATTANOOGA TENN.

KNOXVILLE, TENN.

Room 18, City Hall. P. O. Box 21.

WRIGHT & WOOD,
Civil & Sanitary Engineers.

Sewerage, Drainage, Water Supply, Municipal Work, Surveys, Estimates, Specifications, Superintendence. J. C. WRIGHT, C.E. C. F. WOOD, Jun., Am. Soc. C. E., Engineer and Superintendent Knoxville Water Co.


STEAM DREDGERS,
PILE DRIVERS.
VULCAN IRON WORKS, Chicago.

Send for our 1890 catalogue.

WANTS.

A THOROUGH PRACTICAL MANAGER OF COTTON MILLS wants Situation in Northern part of North Carolina; have first-class reference. Address "MANAGER," care Manufacturers' Record, Baltimore, Md.

CAPITAL WANTED.

A partner with capital wanted in one of the best located and paying factories in the South. The machinery is all new and latest improved. A fine opening to the right party. For particulars address the EUFALIA FURNITURE & VARIETY WORKS, Eufaula, Ala.

WANTED.

A PARTNER WITH \$10,000 TO \$20,000

In an established paying manufactory; want to enlarge and manufacture an article used in every household; our own invention. Write for particulars. Address

J. H. SLATER, St. Augustine, Fla.

WANTED.

A Partner in the best and cheapest plantation

Portable Hay Press

In the world—recently patented—or to manufacture on shares.

J. D. OZIER, Corinth, Miss.

MILL-SITE WANTED.

I wish to correspond with a party in a city or town in the South having a mill or mill-site to offer suitable for the manufacture of bleached cotton goods. There must be good shipping facilities and suitable water for bleaching purposes. Address "A. C. W.," care of Letter-Carrier 246, Station A, Boston, Mass.

B. J. DASHIELL, Jr.

M. Am. Soc. M. E.

CONSULTING AND CONTRACTING ENGINEER,
 6 South Street, Baltimore, Md.

CHARLES PAINE & SONS,
 Consulting and Civil Engineers,
 71 Broadway, New York City.

RAILROADS.
 Preliminary Surveys,
 Location, Construction,
 Equipment, Water Supply,
 Terminal Yards, Signals,
 Electric Appliances,
 Improvement of Villages and Estates.

FAVA, NAEFF & CO.
Architects & Consulting Engineers,

SURVEYORS.

Corcoran Building. WASHINGTON, D. C.

D. D. ROGERS,

Mining and Consulting Engineer.

Examination of the PHOSPHATES of FLORIDA a Specialty.

Established 1873. Marion Block, OCALA, FLA.

JOHN MAC LEOD, M. Am. Soc. C. E.
Consulting & Civil Engineer

8 Courier-Journal Building, Louisville, Ky.

Surveys and Construction of Railroads, Bridges, Deep Foundations and other Engineering works. Plans, specifications and estimates furnished and construction superintended. Examinations and reports made of railroad properties, projected lines, mineral & timber lands. Consultation invited.

Edwin F. Partridge, Pres.; Jos. W. Hawley V.-Pres.; H. Bayard Hodge, Sec.; Wm. S. Perot, Jr., Treas.; Jos. S. Keen, Jr., General Manager.

THE AMERICAN PIPE MFG. CO.

Phipps' Hydraulic Pipe a Specialty.

Engineers & Contractors for Water Works.

Solicit correspondence from town wishing to build upon franchise plan. Factory, Germantown Junction; Office, Room 24, 1325 Chestnut st., Phila.

STEIN & SCHWARZ,
Complete Blast Furnace Plants.

Acid or Basic Bessemer and Open Hearth Steel Works.

Plans, Specifications, Estimates and Superintendence of Construction.

Technical Reports on Machinery and Manufacturing Processes.

323 Walnut Street, Philadelphia, Pa.

OTTEN & WESTENHOFF,
Analytical & Consulting Chemists.

Chemical Analysis of Iron Ore, Pig Iron, Steel, Limestone, Coal, Mineral Waters, Fertilizers, &c. Physical Tests of Iron, Steel and other Building Materials and Lubricating and Illuminating Oils, etc. Examination of Mining Properties.

Office and Laboratory, 17 W. Third St., Cincinnati, O.

Buy and Sell SECOND HAND Stave, Heading, Shingle and Ice Machinery and Hoisting Engines for CASH. Address Box 110, Cleveland, O.

PROPOSALS.

SEWER PIPE.—Sealed proposals will be received by the Mayor and Board of Aldermen of the City of Winston, N. C., until 3 o'clock P. M. of Monday, December 28, 1890, for furnishing about 4 miles of Sewer Pipe, from 6 to 12 inches diameter, and fittings for same. Specifications, approximate quantities, etc., may be obtained from the Chairman of the Sewerage Committee or the Engineer. The right is reserved to reject any or all bids. J. W. ALLSPAUGH, Chairman Sewerage Committee. J. L. LUDLOW, Engineer.

PROPOSALS FOR SEWERS.—Sealed proposals will be received by the Mayor and Board of Aldermen of the City of Winston, N. C., at the Mayor's office of said city, until 3 o'clock P. M. Friday, January 23, 1891, for constructing a part of the proposed System of Pipe Sewers for said city. Copies of the general plans and specifications, forms of proposals and instructions to contractors and any information relative thereto may be obtained from the Chairman or Engineer of the Sewerage Committee. The Committee reserves the right to reject any or all bids. J. W. ALLSPAUGH, Chairman Sewerage Committee. J. L. LUDLOW, Engineer.

NOTICE TO CONTRACTORS.

LITTLE ROCK, ARK., Nov. 25, 1890.
 Sealed Bids will be received by the Building Committee of the Little Rock Exposition Association, at the office of Messrs. Rickson & Thompson, architects, up to noon of December 28, 1890, for the erection of an Exposition Building, according to the plans and specifications on file in the office of the above-named architects. Each bidder will be required to deposit a certified check for the sum of \$1,000, payable to the order of Logan H. Root, Treasurer of the said Association, as a guarantee that if the work is awarded to said bidder he will enter into contract and give satisfactory bond in the sum of \$50,000 for the faithful performance of same. The board reserves the right to reject any and all bids. By order of the Board J. H. MCCARTHY, President. J. B. SUTTLER, Secretary.

SEALED PROPOSALS will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 3 o'clock P. M. on the 6th day of January, 1891, for all the labor and materials required and fixing in place complete, all the Iron Furring, Lathing and Plastering, Ceiling Light, etc., required for the U. S. Court House, Postoffice, building at Denver, Col., in accordance with the drawings and specification, copies of which may be had on application at this office or the office of the superintendent at Denver, Col. Each bid must be accompanied by a certified check for \$300. The Department will reject all bids received after the time herein stated for opening the same, also all bids which do not comply strictly with all the requirements of this invitation. Proposals must be enclosed in envelopes, sealed and marked "Proposal for the Iron Furring, Lathing, Plastering, etc., for the U. S. Court House, Postoffice, &c., building at Denver, Col., and addressed to JAS. H. WINDRIM, Supervising Architect. December 9th, 1890.

SEALED PROPOSALS will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 3 o'clock P. M. on the 5th day of January, 1891, for all the labor and materials required for the approaches to the U. S. Court House, Postoffice, &c., building at Louisville, Ky., in accordance with the drawing and specification, copies of which may be had on application at this office or the office of the Superintendent. Each bid must be accompanied by a certified check for \$300. The Department will reject all bids received after the time herein stated for the opening of the same, also bids which do not comply strictly with all the requirements of this invitation. Proposals must be enclosed in an envelope, sealed and marked "Proposal for the Approaches to the U. S. Court House, Postoffice, &c., building at Louisville, Ky., and addressed to JAS. H. WINDRIM, Supervising Architect. December 4th, 1890.

SEALED PROPOSALS will be received at the Office of the Supervising Architect, Treasury Department, Washington, D. C., until 3 o'clock P. M. on the 7th day of January, 1891, for the iron beams, etc., for first floor, basement columns, &c., for the U. S. Postoffice, &c., building at Scranton, Pa., in accordance with drawing and specification, copies of which may be had on application at this office or the office of the superintendent at Scranton, Pa. Each bid must be enclosed in an envelope, sealed and marked "Proposal for Iron Beams, &c. for the First Floor and Basement Columns, etc., for the U. S. Postoffice, &c., building at Scranton, Pa., and addressed to JAS. H. WINDRIM, Supervising Architect. December 11, 1890.

UNITED STATES ENGINEER OFFICE.

ST. AUGUSTINE, FLA., Nov. 25, 1890.

Notice is hereby given that on the 27th day of December, 1890, at 12 o'clock noon, standard time, I will sell at Mayport, Fla., for cash, to the highest bidder, the wreckage from the bark "Neva," consisting of about 35 cords (more or less) of log-wood. The log-wood is apparently in good condition. It is in pieces from 4 to 5 1/2 feet long and from 3 inches to 20 inches in diameter. The wood must be removed within 30 days from sale and until removed will be at owner's risk. For further information apply to this office. W. M. BLACK, Captain, Corps of Engs., U. S. A.

J. H. PRATT,
ANALYTICAL CHEMIST & MINING ENGINEER

1826 Third Avenue, Birmingham, Ala.

Chemical Investigations, Analyses of Ores, Slags, Coals, Waters, &c. Reports on Mineral Properties, &c. Correspondence solicited.

RATTLE & NYE,
Analytical Chemists,

METALLURGISTS,

AND

Mining Engineers,

CLEVELAND, O.

For Sale.

Railway Equipment

If interested send for our Catalogue No. 13, just issued, of Locomotives, Cars, &c., of every description, for all kinds of work.

A. S. MALES & CO.,
16, 16 and 17 Astor Building, Cincinnati, O.

Railway Equipment.
REGINALD CANNING & CO.

116 Broadway, New York.
Have on hand for sale all kinds of SECOND HAND ROLLING STOCK.

Established 1855.

GEORGE PLACE,

Late the George Place Machinery Co.

Equipment of Railway and Car Works
EQUITABLE BUILDING,
120 Broadway. - NEW YORK

Steam Fire Engines
FOR SALE

One Hunneman and one Button in first-class condition. Also all kinds of second-hand Engines and Boilers for sale cheap. For terms, prices, &c., address

Lowell Steam Boiler Works,
LOWELL, MASS.
Estimates given on New Work of every description.

LATHES.
1 20 in. x 12 ft. Gray Lathe.
1 19 in. x 8 ft. New Haven Lathe.
Address THE GORDON STEAM PUMP CO.,
Hamilton, Ohio.

SYRACUSE ROLLING-MILL MACHINERY.

One 500 h.p. Vertical Buckeye Engine, 24x30 in.
One 300 h.p. Vertical Corliss Engine, 24x36 in.
Four Trains, 19, 16, 14, 9 and 8 in. Rolls, 3 high, with over 200 new spare, turned Rolls, Housings and Bed-Plates all of modern construction.
One Large Squeezer, One Crusher, Shears, Scales, Sturtevant Blowers, Shafting, &c.
Four Steam Pumps, three Blake, one Dean.
Four 80, one 90 h.p. Tubular Boilers, double-riveted, flush front and full fixtures.
New Flue Boiler, 50 h.p., and others, good order.
Porter Horizontal Engine, 80 h.p.; Vertical Engine, 60 horse.
One 8x10 High Speed Engine.
Complete Machine Shop Tools, Lathes, &c.
One first-class Ingersoll Compressor, 24x30.
Five Steam Drills.

Address **GEORGE M. CLAPP, Agt.,**
74 Cortlandt Street, New York.

Second-Hand Machinery Cheap.

1 8-H.P. Portable Engine and Boiler, on wheels.
1 10-H.P. Portable Engine and Boiler, on skids.
1 No. 1 Universal Grinding Machine. B. & S.
1 No. 2 Universal Grinding Machine, 40 in. bet. centers. Brown & Sharpe.
1 No. 2 Two-Spindle Profiling Machine. Bement.
1 Set 10 in. x 6 ft. Power Bending Rolls.
1 Trip Hammer.
1 No. 7 Root Blower. 1 No. 3 Sturtevant Exhaust.
1 No. 3 Universal Miller. Brainard.
1 No. 2 Lincoln Pattern Miller.
1 No. 1 Plain Miller. Brown & Sharpe.
1 Horizontal Drilling Machine.
1 Set 12 in. x 10 ft. Power Bending Rolls.
Write us for what you want and send description of Machinery that you wish to trade or sell.

THE J. A. MACKINNON MACHINERY CO.
22 Warren Street, New York.

SECOND-HAND MACHINERY.

1 Iron Pl., planes 8 ft. long, 35 in. x 36 in. 2 hds. Sellers.
1 " 30 ft. long, 70 in. wide, 2 heads.
1 " 8 ft. 30 in. x 30 in.
1 Engine Lathe, 20 ft. bed, 72 in. swing. Good.
1 Engine Lathe, 16 ft. bed, 60 in. swing.
1 Engine Lathe, 10 ft. bed, 20 in. swing. Good.
1 Engine Lathe, 8 ft. bed, 18 in. swing.
1 Engine Lathe, 8 feet bed, 15 inch swing.
1 " 6 " 18 " " chuck.
and various other sizes.
1 Small Turret Head Lathe.
1 24-in. S. F. Blaisdell Drill. Good.
1 20 inch Plain Drilling Machine.
1 48-in. Vertical Boring Mill.
1 No. 10 Styles & Parker Press.
1 Lincoln Pattern Milling Machines.
1 11 ft. 25 in. Stover Dimension Planer.
Send for list Second-hand tools.

NEW YORK MACHINERY DEPOT,
Breuklyn Bridge Store, 16, New York

BARGAINS.—Second-Hand Machinery.

L. F. SEYFERT'S SONS,
Nos. 437, 439, 441 N. Third St., Philadelphia, Pa.
1 180 h.p. Corliss Hor. Engine, cyl. 20x48 in.
1 100 h.p. Horiz. Engine, cyl. 18x36 in. Rickards.
1 75 h.p. Horiz. Engine, cyl. 16x24 in. Rickards.
1 40 h.p. Vertical Engine, cyl. 12x14 in. Naylor.
1 25 h.p. Lidgerwood Hoisting Eng., cyl. 10x12 in.
1 6, 8, 10, 15 & 20 h.p. Portable Hoisting Engs, single & double cyl. & drum. Combined & single.
1 12 h.p. Agricultural Engine & Boiler on wheels.
1 8 h.p. Agricultural Engine & Boiler on wheels.
40 & 50 h.p. Hor. High Speed "Southwark" Aut. Cut-off Engines.
1 Helve Hammer.
50 Upright Tub. Steel Boilers, 4 to 40 h.p. Cheap.
1 50 h.p. R. T. Boiler, 48 in. x 16 ft., 90 lbs. press.
1 25 h.p. R. T. Boiler, 42 in. x 10 ft. (28) 3 in. tubes.
1 Planer 33x33 in. x 9 ft. E. & A. Betts.
1 Planer 30x30 in. x 6 ft. Scott Bros.
1 Planer 24x24 in. x 4 ft. Scott Bros.

BARGAINS.

NEW TOOLS.

21 in. x 8 ft., 10 ft. and 12 ft. Imperial Engine Lathes.
18 in. x 6 ft. and 12 ft. Standard Engine Lathes.
19 in. x 9 ft., 11 ft. and 13 ft. Standard Eng. Lathes.
14 in. x 6 ft. and 15 in. x 6 ft. Engine Lathes.
24 in. x 24 in. x 24 in. x 6 ft. and 10 ft. Planers.
15 in. and 20 in. Crank Shapers.
20 in. and 26 in. Gears.
20 in., 25 in., 28 in., 32 in. and 40 in. Standard Drills.
20 in., 24 in., 28 in. and 32 in. National Drills.
12 in., 13 in., 15 in. and 8 in. Turret Lathes.
14 in. and 15 in. Fox Monitor Lathes.
15 in. x 6 ft. Square Arbor Lathe.
12 in., 14 in. and 15 in. Hand Lathes.
15 in. Cabinet Turret Lathe.
30 in. Pulley Lathe.
B. G. Milling Machines. Punch and Shears.
Key Seats. Bolt Cutters.
Radial Drills. Grinding Machines.

SECOND-HAND TOOLS.

We have the following second-hand Machine Tools, taken mainly in exchange for those of our manufacture. We will sell them low.
17 in. x 8 ft. Putnam Lathe. Good Order.
18 in. x 6 ft. Engine Lathe. Good Order.
18 in. x 10 ft. Engine Lathe. Good Order.
20 in. x 12 ft. Ames Lathe. Good Order.
1 24 in. x 8 ft. L. W. Pond Lathe. Good Order.
1 32 in. x 32 in. x 8 ft. and 9 ft. L. W. Pond Planer. G. O.
24 in. x 16 ft. Lathe. Fair Order.
10 in. Traveling Head Shaper. Good Order.
24 in. x 24 in. x 16 ft. Planer. Good Order.
32 in. x 12 in. x 8 ft. L. W. Pond Planer. Good Order.
36 in. x 36 in. x 7 ft. Mattawan Planer. Good Order.
1 Hende 3-Spindle Drill Press. Good Order.
1 24 in. Hende Drill Press.
1 24 in. B. G. F. Drill Press. Good Order.
1 24 in. Plain Drill Press. Good Order.
1 34 in. Drill Press. Good Order.
1 26 in. B. G. Drill Press. Good Order.
1 36 in. B. G. New Haven Drill Presses. Good Order.
1 2 1/2 in. Acme Single Drill Press. Good Order.
1 250-lb. Steam Hammers (Bement, Miles & Co.) Good Order.
1 Punch, 18-in. throat, to punch 1 in. hole in 3/4-in. iron. At Order.
1 Plain Milling Machine. Good Order.
1 Niles Universal Miller, 6-in. Univ. chuck fitted. Good Order.

We have in stock or in process of construction at our Works a full line of Engine Lathes, Planers, Crank and Gears Shapers, Drill Presses, Improved Cabinet, Fox, Monitor, Square Arbor and Turret Chucking Lathes, Valve Millers, Cock Grinders, Slide Rests, etc.
Our Stock is constantly changing.
Write for full particulars and prices.
Outfits a specialty.

THE LODGE & DAVIS MACHINE TOOL CO.

MANUFACTURERS OF

IRON AND BRASS WORKING MACHINERY.
NEW YORK STORE: 64 Cortlandt Street.
WORKS: Cincinnati, Ohio.
WEST'N HOUSE: 68-70 E. Canal St., Chicago.

COTTON MACHINERY FOR SALE, made by Bridesburg Manufacturing Co. 4,000 spindles, carding, &c., entirely complete and in very good condition. Will be sold at a great bargain for cash at address "D. W. O." care Manufacturers' Record, Baltimore, Md.

Textile Machinery

Picking, Carding, Roving, Spinning, Spooling, Twisting, Reeling, Winding, Weaving and Finishing for Cotton and Woolen Mills. Very large stock to select from in our storehouses here, of over two acres of floorage.

JEREMIAH CLARK,
Lowell, Mass. Office, 63 Dutton St.

SECOND-HAND WOODWORKING MACHINERY FOR SALE.

24 in. 6-Roll Single Surface Planer & Matcher \$275
24 in. "Sweepstakes" Plan., Match. & Moulder 175
24 in. J. A. F. & Co. "Little Champion" Pl. & Mch 200
24 in. J. A. F. & Co. Double Drum 6-Roll Sander 175
Colburn 2-Spindle Blindstole Boring Machine 35
Band Saw, 26-inch wheels, iron table. 55
No. 2 J. A. F. & Co. Resawing Mach. 22-in. saw 105
No. 6 Sturtevant Pres. Blower, counter shaft. 85
6x6 Vertical Engine..... 100
35 h. p. Portable Boiler..... 200
25 h. p. Tubular Boiler..... 150

JAMES JENKS,
Dealer in Machinery, 199 Jefferson Avenue, Detroit, Mich.

Second-Hand MACHINERY in Good Order FOR SALE CHEAP.

Engine Lathes—62 in. x 17 ft.; 42 in. x 12 ft.; 32 in. x 12 ft.; 29 in. x 15 ft.; 24 in. x 10 ft.; 22 in. x 8, 10 and 12 ft.; 20 in. x 8 and 14 ft.; 15 in. x 6 and 8 ft.; 1 each 24 in. x 20 in. and 24 ft.; 24 in. x 12 ft.; 24 in. x 15 and 16 ft.; 18 in. x 10 ft.; 20 in. x 10 ft.; 20 in. x 12 ft.; 1 each 16 in. x 8, 8 and 10 ft.; 6 each 12 in. x 6 ft.; 1 12 in. x 5 ft.; 2 each 11 in. x 4 ft. and 5 ft.; 1 10 in. x 3 1/2 ft., foot power.
1 each Planer, 24 in. x 24 in. x 5 and 8 ft.
1 each Planer, 30 in. x 30 in. x 8 ft.
1 Planer, 54 in. x 52 in. x 12 ft., 50 in. x 30 in. x 17 ft.
1 Planer, 40 in. x 40 in. x 14 ft.
1 Planer, 42 in. x 42 in. x 10 and 12 ft.
1 Planer, 22 in. x 20 in. x 4 and 5 ft.
1 Planer, 16 in. x 16 in. x 3 ft.
1 Planer, 42 in. x 42 in. x 12 ft., with two heads.
1 Planer, 50 in. x 50 in. x 17 ft., with one head.
1 Planer, 100 in. x 100 in. x 18 ft., with two heads.
1 Engine Lathe, 22x22 ft., good order. Niles.
1 New Horizontal Boring Machine, with facing attachment, Newark Machine Tool Co., makers.
1 24x18x4-foot Planer. Ames.
1 Drop Hammer, 75 pounds.
1 48-in. Radial Drill.
1 Shaper each 6, 10, 12, 15, 20, 24 and 30 in. strike.
3 Crank Planers. 6 Lincoln Pat. No. 2 Millers.
1 Universal Miller. Brown & Sharpe.
1 each 2, 3, 4 and 6 Spindle Gang Drill.
1 each Nos. 1, 3, 4 and 5 Screw Machines.
1 each 40 and 60 pound Vertical Hammers.
1 No. 53 Ferracute Press. 1 Nut-facing Machine.
1 No. 24 Fowler Press.
10 Foot Presses, assorted. 8 Power Presses, ass'd.
12 Punching and Shearing Machines, assorted.
2 Return Tubular Boilers, 35 horse-power.
1 Bolt Cutter, each 1/2 in. to 1 in., and 1/2 in. to 2 in.
1 No. 1 Hand Millers. Pratt & Whitney.
1 Horizontal Engine each 25 and 45 horse-power.
1 Horizontal Boring Machine, 36 in. x 26 ft.
2 each 8 and 12 inch Slotters.
1 Power Mortising Machine.
Also full line of New Machinery.
PRENTISS TOOL & SUPPLY CO.
P.O. Box 224, 124 Liberty St., New York City.

THE NEW YORK RAILWAY SUPPLY CO., Limited,
40 and 42 Wall Street, New York.

Steel Rails and Railway Equipment

of all descriptions, for Cash or on the Car Trust Plan.

COMPLETE OUTFITS FOR ALL CLASSES OF RAILROADS,

Steam, Electric, Horse, Logging, Coal and other Commercial Roads at the lowest market prices and most favorable terms. Correspondence solicited from all new and old enterprises.

BOILERS, ENGINES, STEEL RAILS

Light Locomotives, RAILS and EQUIPMENT,
Cotton Gins, Saw Mills,
Wood-Working Machinery,
and Heavy Hardware.

F. A. ESTEP,
OFFICE AND WAREHOUSE:
Corner Market and Cowart Streets,
CHATTANOOGA, TENN.

A NEW DEPARTURE! SECOND-HAND GOODS AT FIRST HANDS.

BOILERS, ENGINES, PUMPS, HOISTERS

AND MACHINERY OF ALL SORTS.

NOTHING BUT THE BEST. Send for Catalogue.

THOS. P. CONARD, 206 Walnut Place, Philadelphia, Penna.

— Steel Rails, all Weights. —

I have FOR SALE a second-hand standard gauge Locomotive, Rogers build, cylinder 12 in. x 20 in., four drivers, wood burner, in good condition. Delivery in South Carolina. Full description on application. I am prepared to furnish Steel Rails, Frogs and Switches, Fish Plates, Bolts and Nuts; also new or second-hand Standard or Narrow-gauge Railway Equipment.

BENJAMIN WATSON, 40 Wall Street, New York.

FOR SALE. Rails, Spikes, Fastenings, Frogs, Switches and Crossings. Locomotives, Dummies, Cars, Wheels and Axles. Complete outfits for logging Roads and Street Railways. New and Second-hand.

WILLIAM MINNIGERODE, Dealer in RAILWAY SUPPLIES,
ROOM 3, JOHNSTON BUILDING, CINCINNATI, O.

FOR SALE for Cash, or Credit on Car Trust.

30 Second-Hand Narrow Gauge Passenger Coaches.
30 Second-Hand Standard Gauge Passenger Coaches.
30 New Standard Gauge Passenger Coaches, all modern improvements. Price \$3,700 each.
40 Second-Hand Single Horse Cars and 30 Double Open Horse Cars. New York delivery.
Wm. B. Pollock & Co.'s Oil Tank Cars for sale at lowest possible prices. Photos and specifications sent with prices if desired.

Estimates furnished for Electrical Equipment Under Latest Improvement.
Bonds Negotiated on New and Old Roads, Long Roads Preferred.
Apply to **ALFRED W. LADD, 44 Broadway, New York.**

AGENTS—Thos. P. Alston, Esq., 62 E. Alabama St., Atlanta, Ga.; J. H. Fall & Co., Nashville, Tenn.

JAMES IRVING, Pres. GEO. B. F. COOPER, Vice-Pres. WM. V. CARLIN, Sec. & Treas.

NEW YORK EQUIPMENT CO., 15 Wall Street, New York.

Have for Sale for Cash or Lease on Easy Terms on the CAR TRUST PLAN.

LOCOMOTIVES, PASSENGER AND FREIGHT CARS, ETC.

We have on hand a large stock of Standard Gauge Locomotives, which we are prepared to rent for long or short terms, with option of purchase if desired.

AGENTS: { **AVERY & WEST,** Rookery Building, Chicago, Ill.
AMERICAN SUPPLY CO., American Bank Building, Kansas City, Mo.
L. F. SCOTT, Los Angeles, California.
C. A. BALL, Marion, Indiana.
G. HERBERT ELLERBE, Birmingham, Alabama.

Cotton Machinery.

1 3,000 Spindle Carpet Warp Plant.
1 200 Loom Plant for Osnaburgs, Sheetings, Drill, &c.
1 System Bagging Machinery, capacity 30,000 lbs. per week.
1 Full System of Print Cloth Machinery, 160 LOOMS.
1 System 160-loom Plant on Denims and Fancy Shirtings, Chevoits, &c. Nearly new machinery.
1 System of Rabeth Spinning, 4,300 spindles. Fine condition.
8 36-in. Gambell Cards, full roller.
Also a large lot of Miscellaneous Machinery in first-class condition.

L. Godfrey & Co., 147 Gaspee Street, Providence, R.I.

Racine Improved Automatic Engine.

The Racine Hardware Manufacturing Co., which manufacture the above-mentioned well-known engine, has lately completed extensive additions and improvements to its engine department, placing it in a capable position for putting on the market a strictly first-class article. The company has devoted skillful attention to construction with the view of turning out a superior engine possessing the important points of economy, durability, simplicity and compactness in conjunction with furnishing reliable service, and having expended both time and money in improving an article already looked upon with special favor by the trade, it has every reason for anticipating a decided increase in patronage and an enlargement of the already wide circle of friends of the Racine engine. The manufacturers claim and guarantee absolute reliability, and state that it is impossible to get an engine any more compact or more durable. The engine is also guaranteed to be as economical as to steam consumption as any single valve automatic engine made. All the adjustments are plainly marked, and it is impossible to get them out.



RACINE IMPROVED AUTOMATIC ENGINE.

The following details are from a descriptive circular of the engine:

"The engine has a solid steel center crank shaft and is made to carry one, two or even three pulleys if desired. Where two pulleys are used they are generally placed both on the same side of the engine, the governor pulley next to the frame and the outer bearing and a light driving pulley outside of outer bearing; this makes an exceedingly handy and compact arrangement.

If it is not desirable to have both pulleys on the same side the shaft can be extended through engine frame far enough to admit of putting a pulley on either side.

The crank pin is lubricated from the outside by a solid oil cup which revolves with the shaft, but can be easily taken off and filled while the engine is in motion, making it almost impossible to have a hot crank pin.

The crank bearings are of extra length and babbitted with hard, genuine babbitt.

The connecting rod is made of steel in T-shape for lightness and strength and has adjustable bronze boxes at both ends.

The guides for cross head are of extra width and length and cast solid with the frame. The cross-head shoes are bronze and are adjustable, and are so designed

that they can never become loose or get out of place.

The valve is, in essentials, the same as used on a number of the best high-speed automatic engines in the market. It is very simple and perfectly balanced.

Both the valve and the steam chest are made from a very hard, close grade iron, and great care is taken in fitting.

The steam chest has an auxiliary exhaust port for the crank end of cylinder, and in larger sizes the valve chamber is jacketed with exhaust steam.

The governor is exceedingly simple, and has control of the engine at all times under varying loads and steam pressure, with a variation not over two per cent. between load and no load.

Sight-feed lubricator, glass oil cups and all necessary wrenches are furnished with all engines; also an outer bearing for all sizes from 8 horse-power and upward. Above 15 horse-power all engines are self-contained.

It has been the aim of the manufacturers to make, at an exceedingly modest price, an engine that would be handy, simple, requiring very little attention, small floor space, economical in the use of steam and to run on heavy and continuous work.

They are made in sizes from 1 to 100 horse-power, a 100 horse-power, two pulleys, requiring a floor space of only 60x84 inches. Marine engines and boilers from 1 horse-power and upward, burning oil or coal, or both, are also included in the line.

The Racine Hardware Manufacturing Co., Racine, Wis., will cheerfully furnish any further information.

A WEBSTER vacuum exhaust economizer and feed-water heater, after undergoing a severe test at the Conshohocken Electric Light & Power Co.'s works, Conshohocken, Pa., called forth a strong letter of endorsement from the superintendent, which, after stating the requirements exacted from the apparatus and the experience of the writer with similar devices, closes with a splendid testimonial to the efficiency of the product of Warren Webster & Co., Philadelphia, Pa., manufacturers of the Webster vacuum exhaust steam economizer.

THE prominent Philadelphia engineering and chemistry firm of Stein & Schwarz, in a communication to the MANUFACTURERS' RECORD, tell as follows of the prosperous condition of their business: "We have recently closed contract with the Napier Iron Works for the erection of a 12x60 feet blast furnace plant; have further contracted for another large coke furnace plant with a company whose name and location cannot be given at present, and expect to close two other contracts before long. We have also order for introducing a new process of burning lime at the famous lime works of Francis T. Cobb & Co., Rockland, Me. Our chemical department is equally busy in the testing of ores, phosphates, &c., in experimental ore and coke washing and other similar practical investigations. We have recently investigated and thoroughly tested quite a number of ore and coal and other mineral deposits, and have successfully conducted several series of experiments for chemical manufacturing purposes."

WM. SIMPKIN A. E. M. E.

SIMPKIN & HILLYER, ENGINEERS and CONTRACTORS RICHMOND, VA.

Manufacturers of and Agents for Steam Engines, Boilers, Pumps and Heavy Machinery. Economical Steam Plants, Rope and Belt Driving. Special Machinery for Chemical and Fertilizing Works, Gas, Water and Creosote Works. A specialty of the "Warwick" Pole Road Locomotive, "Warwick" Tram Road Locomotive, and the "Warwick" Silent Steam Street Motor. Castings furnished. Repair work solicited. Consultations, Arbitrations and Valuations. Engines indicated. Plans, Specifications and Estimates prepared. Correspondence invited.

WORKS—Newport News, Va.

GENERAL OFFICE—1105 Main St., Richmond, Va.

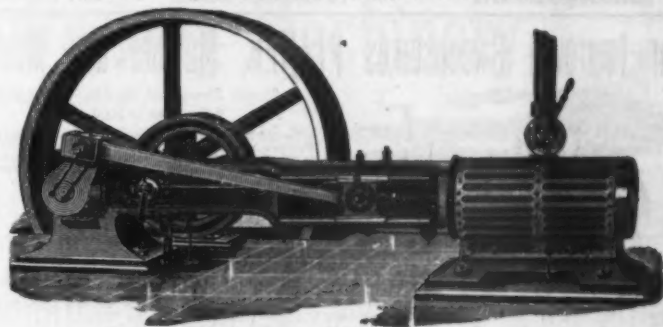
SEND ALL REPAIRS TO OUR WORKS.

E. J. WOOD, ARCHITECT, Consulting Engineer and Contractor,

243 BROADWAY,

NEW YORK.

Superintendent of the Construction and Erection of Factories, Steam Plants and all kinds of Machinery. Engines Indicated. Valves Adjusted and Power Measured.



COMPLETE STEAM PLANTS. BOILERS, ENGINES, Every Description.
SHAFTING, PULLEYS, HANGERS.
DRAWINGS AND SUPERINTENDENCE. ECONOMY GUARANTEED.
CORRESPONDENCE SOLICITED.

I also make a Specialty of Taking Down, Removing and Reerecting Steam Plants and Machinery of every description. Send for Catalogue F.



SHIELDS & BROWN CO. For PIPES, BOILERS, DRUMS and all other hot or cold surfaces. ASBESTOS CEMENT, PACKING, SHEATHING, &c.
143 Worth St., NEW YORK. 240 and 242 Randolph St., CHICAGO.

Especially adapted for the Elevation of Clear, Gritty, Thick, or Acidulous Liquids, Quickly, Cheaply and Efficiently



THE NEW PULSOMETER STEAM PUMP.

without Engine, Machinery, Oil, Expensive Power, Skilled Labor, or Material Wear. Send for Illustrated Catalogue.
PULSOMETER STEAM PUMP CO., 120 Liberty St., New York.

SEYMOUR'S SHEARS AND SCISSORS

Finest in Finish and Quality.

Price-Lists on Application.
275 Kinds & Sizes



"I have handled your shears very successfully for the past twenty-four years."—JOHN MAYOR, Macon, Mo.

CARLIN & FULTON, Baltimore, Md., carry a full line of Seymour's Shears in stock.

HENRY SEYMOUR CUTLERY CO., 84 & 86 Chambers St., N. Y. City.



STEVEN'S PATENT IDEAL COMBINED DIVIDER & CALIPER

No. 62.
Price, per set.
All nickled \$4.00
Packed for transmission by mail.

STEVEN'S PATENT SPRING SCREW THREAD CALIPERS

Leader, No. 71.
Price, by mail, postpaid.
3 inch...\$0.75 | 5 inch...\$1.00
4 " " 0.50 | 6 " " 1.00
These Tools for fine workmanship and finish, have no equal in the world.

TOOLS.

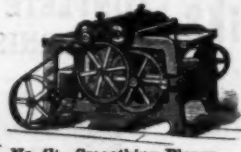
Idea: Surface Gauges, Depth Gauges, Ideal and Leader Spring Dividers and Calipers, and Fine Machinists' Tools. Illustrated catalogue free to all.
J. Stevens Arms & Tool Co., P. O. Box 210 Chicopee Falls, Mass.



L. G. HILLYER, M. E.



No. 4-Patio Planer and Matcher.



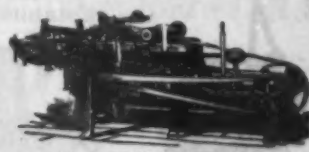
No. 6-Smoothing Planer.



Horizontal Borer.



No. 2-Self-Feed Rip Saw.



No. 3-Molding Machine.

W. H. DOANE, Pres't.

J. A. FAY & CO.

D. L. LYON, Sec'y.

CINCINNATI, OHIO.

Manufacturers of
—PATENT—

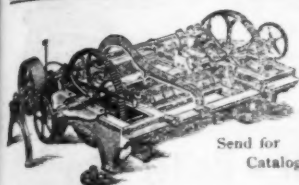
Improved Wood-Working Machinery

OF EVERY DESCRIPTION,

For Planing Mills, Sash, Door and Blind Shops, Furniture, Carriage and Wagon Factories,
Spoke, Wheel and Agricultural Works, Car Shops, etc.

Awarded "GRAND PRIX" at the Great PARIS EXPOSITION of 1889.

Every Machine Tested and Warranted.
Send for Circulars and Estimates.



Send for
Catalogue.

VENEER CUTTING MACHINE.—Product—Veneer for baskets, berry boxes, cheese boxes, orange crates, furniture & car trimmings, h ad linings, etc.
ROD AND DOWEL MACHINE.—Product—Rods, pins, dowels, curtain poles, chair rounds and all straight work under 2½ inches diameter.
HOOP MACHINE.—Points, planes, saws and laps 15,000 hoops in 10 hrs. Hoop coilers & complete outfit.

VENEER CUTTING MACHINES.

THE I. E. MERRITT MACHINERY CO.

MANUFACTURERS OF

Woodworking Machinery

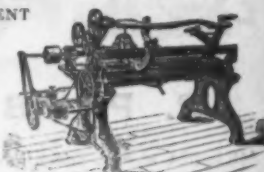
—FOR—

Veneer, Fruit Package and Cheese Box Factories,
Handle, Spoke, Hoop and Turning Factories,
Heading, Stave and Shingle Mills

56, 58 and 60 Market Street, LOCKPORT, N. Y.

HANDLE AND NULLING LATHES.

**THE OBER PATENT
IRREGULAR
LATHE.**
Product—
Axe helves, hammer handles, spokes and irregular forms of all kinds.



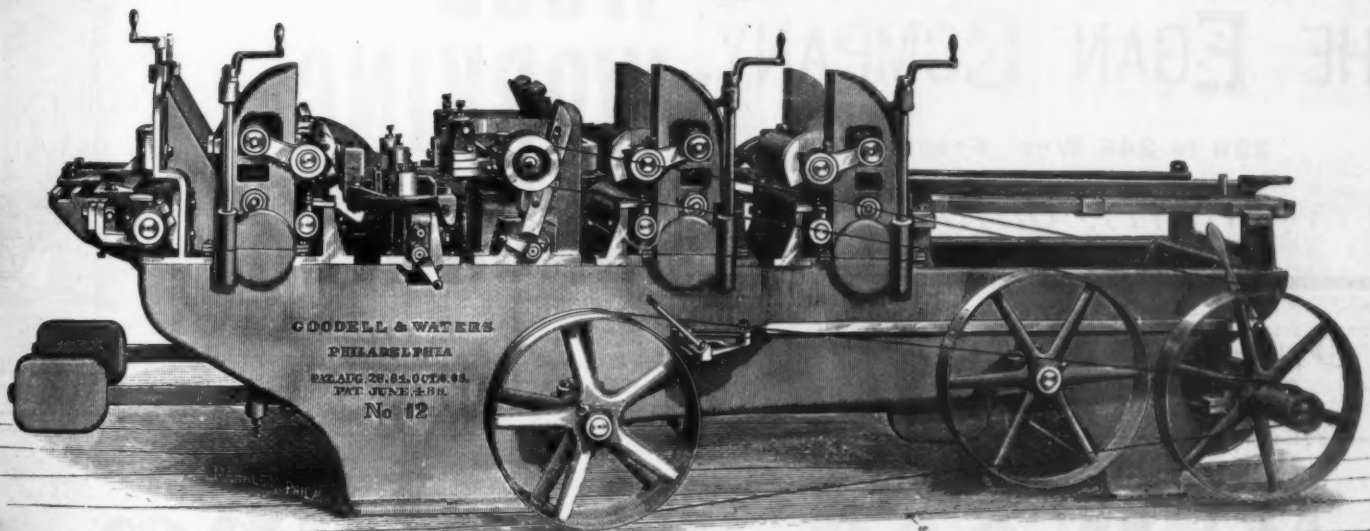
GAUGE LATHE.—SELF-CENTERING, INTERCHANGEABLE DIES, NEW INVENTION.—Product—Broom, hoe, rake, fork & other handles, cant hook & pevy stock.
AUTOMATIC SAWING MACHINE.—Product—Handle, spoke and hoop stock direct from the log. Two or more logs sawed at each travel of the carriage backward or forward.

SAND BELTS, CHUCKS, AUGERS, ETC.

GOODELL & WATERS,

BUILDERS OF

Wood Working Machinery



No. 12 SIX-ROLL PLANER AND MATCHER.

To Double or Single Surface 24 inches wide up to 6 inches thick and match 19 inches wide. Weight 7,000 pounds.

Our line of Planing Mill Machinery is very complete. During the past year we have introduced many new and improved tools, and you will do well to consult our catalogue. Estimates cheerfully given for complete mill outfits.

GOODELL & WATERS,

Western Warerooms, Chicago and San Francisco.

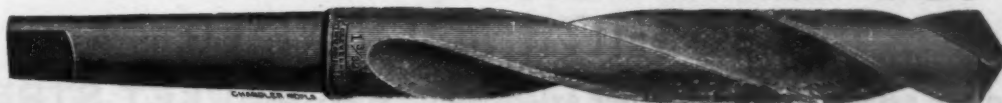
MANUFACTURERS,

3002 Chestnut Street, Philadelphia, Pa.

Established 1874.

MANUFACTURERS OF
Taper Shank Drills,
Straight Shank Drills,
Blacksmith Drills,
Mistook Drills,
Bright Fluted Drills,
Machine Bit Drills.

Cleveland Twist Drill Co.



Send for Catalogue.

OFFICES—

Cor. of Lake & Kirtland Sts., Cleveland, O.
MORTON, REED & CO., BALTIMORE.

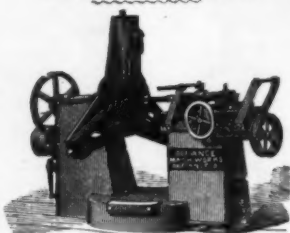
Write for Discounts.

MANUFACTURERS OF
Self-feeding Reamers,
Expanding Reamers,
Shell Reamers,
Stay-bolt Taps,
Taper Reamers



Patent Automatic Combined Spoke, Turning and Squaring Machine for common, warren patent or sharp-edged spoke turning; capacity 8,500 per day

Established 1850.



Wheel-Boxing Machine.

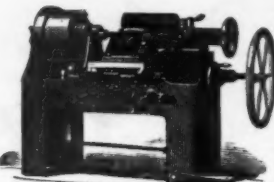
Defiance Machine Works, DEFIANCE, OHIO.

MANUFACTURERS OF

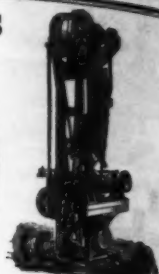
HUB, SPOKE, WHEEL, BENDING Wagon and Carriage Machinery.

Patent Flow-Handle Benders, Shapers, Cut-off Saw and Revolving Polishers, Hot-Form, Double and Single Bent Pole and Express Shaft Benders, Neck-Yoke, Singletree, Brush Handle Lathes and Finishing Machines. Estimates and Circulars given upon application.

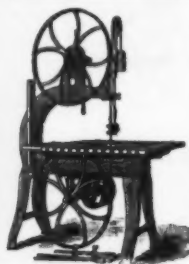
COMPLETE OUTFITS
FURNISHED.



Patent Hub-Turning Machine.



Patent Automatic Double Chisel Hub-Mortising Machine. Built in three sizes.



BAND SAW.



TWIST MACHINE.

P. PRYIBIL,

518 to 524 W. 41st Street, New York City.

MANUFACTURER OF SUPERIOR

Wood-Working Machinery

SHAFTING, PULLEYS AND HANGERS.



Send for Catalogue "A"

GREAVES & KLUSMAN

180 & 182 W. Second St., Cincinnati, Ohio.

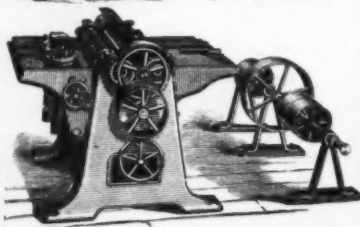
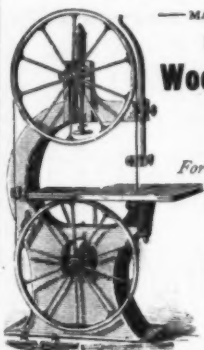
MANUFACTURERS OF
IMPROVED

Woodworking Machinery.

For Planing Mills,
Furniture and Chair
Factories, Sash,
Door and Blind,
Wagon and Car-
riage and General
Wood Workers.

Write for Prices.
It Will Pay You.

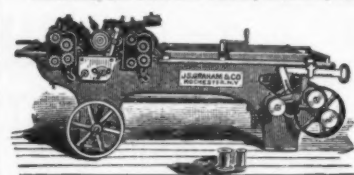
36-in. Band Saw.



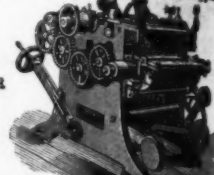
J. S. GRAHAM & CO.

261 LYELL AVENUE, ROCHESTER, N. Y.

Manufacturers of Planers and Matchers, Surfacers, Timber Planers, Resawing Machines, Gang Ripping Machines, Self-Feed Saw Tables, Moulders, Pony Planers, Etc.



SEND FOR
PRICES.



These Cuts represent the Latest Improved

Gang Lath Mill & Bolter

MANUFACTURED BY
ROBT. EASTON, 157 Market Street,
WILLIAMSPORT, PA.

WRITE FOR PRICE LIST AND DISCOUNT.



WESTERN FILES WARRANTED SUPERIOR QUALITY
WESTERN-FILE CO. LIMITED
BEAVER FALLS PA

WRITE FOR NEW CATALOGUE AND SPECIAL LOW PRICES.

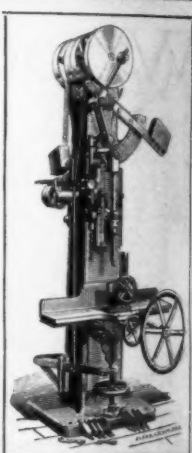
THE EGAN COMPANY,

228 to 248 West Front St.

CINCINNATI, OHIO, U. S. A.

WOOD WORKING MACHINERY

ORIGINATORS,
DESIGNERS
AND
BUILDERS.



No. 5 HEAVY MORTISE AND DRILL.
Suitable for light and heavy work, especially for light car work, agricultural implements and wagon work.

PERFECT
OPULAR
OSITIVE
RACTICAL
ROFITABLE

The Newest
Mechanisms of
American Ingenuity.

COMPLETE
OUTFITS
FURNISHED.

For Planing Mills, Sash, Door and Blind Work; Saw Mills, Furniture, Chair and Bracket Factories; Car, Railway and Agricultural Works; Buggy, Carriage and Wagon Builders; Spoke, Wheel and Handle Factories, and General Wood Workers.



Wood Working Machinery



COMPLETE OUTFITS FOR PLANING MILLS

H. B. SMITH MACHINE CO.

Send for catalogue and visit our extensive
warerooms if possible.

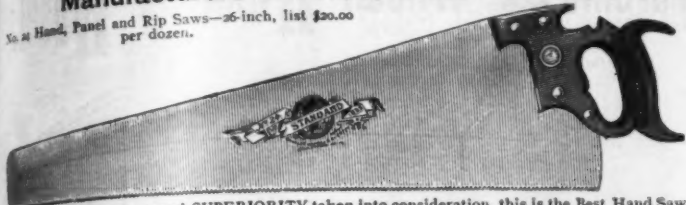
925 MARKET STREET.

PHILADA, PA., U. S. A.

Wheeler, Madden & Clemson Mfg. Co., Middletown, N.Y.

Manufacturers of Hand, Cross-Cut and Wood

Established 1853.
No. 24 Hand, Panel and Rip Saws—26-inch, list \$20.00 per dozen.



PRICE, QUALITY and general SUPERIORITY taken into consideration, this is the Best Hand Saw on the market for Mechanics use.

SAWS.

Extra Thin Back. Patent Handle. Hollow Back Blade.
PERFECT TEMPER. ELEGANT FINISH. SUPERIOR FILING.

CROSS-CUTS furnished in all the leading shapes, sizes and styles of teeth, in both WIDE, NARROW and ONE MAN Saws. Only the very best of Crucible Steel of our own manufacture enters into our goods, and we fully warrant them in each and every particular. We are now turning out the finest goods ever produced in our line. For Sale by all Leading Jobbers and Dealers.

FILE ROOM MACHINERY

For Saw Mills and
Woodworking Factories.

COVEL MFG. CO.

CHICAGO, ILL.

THE "WELLS LIGHT."

WALLWORK & WELLS' PATENTS. (Registered Title.)

Powerful Portable Light UP TO 2,000 C. P.

Self Contained. No Outside Motive Used. Complete in Itself, as shown by Accompanying Cut. Simple in Construction. Any Laborer can handle it.

3,000 SOLD LAST SEASON.

UNAFFECTED BY WEATHER.

KEEGAN & HALPIN,

**44 & 46 Washington St.,
NEW YORK.**



FOR FULL INFORMATION
• APPLY TO

**THE CHAMPION OF ALL
FIRE EXTINGUISHERS.**

Just the thing that is wanted at present. This machine is the most simple and durable in the market. Can be recharged for the small sum of 10 cents. Carries no pressure until required. Has no bottles to break, no screws to unloosen or harness, as it has a handle which makes it easy to operate. It throws a stream 45 feet in length. Will not injure flesh or fabric. Think of the great improvements over all other machines. Call or write.

Black Cloud Chemical Fire Extinguisher Co.

26-30 E. MAIN ST., CLEVELAND, OHIO.

Agents wanted everywhere.



RELIABLE

**Torches.
Furnaces.
Paint Burners.**

TORCHES

To burn Gasoline and Oil. 500,000 in use. Not affected by wind or weather.

Gasoline Furnaces

For plumbers' use. Powerful Flame. Removable Melting Pot. Wind does not affect it.

GASOLINE PAINT BURNERS.

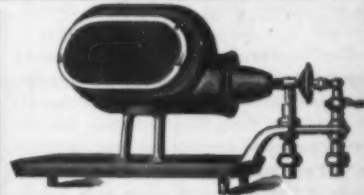
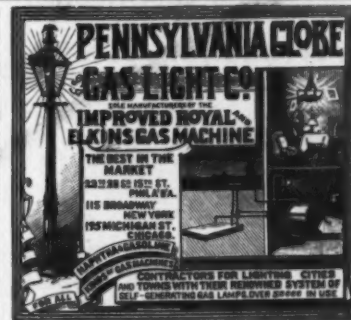
Steel Bodies. Light and Strong. Adjustable Burner.

ALL GOODS GUARANTEED.

SOLE MAKERS

The Schneider & Trenkamp Co.

CLEVELAND, O.



STICKNEY OIL BURNER

For Heating Soldering Coppers.

Saves insurance premiums, decreases fire risks. Economical and reliable. Always ready for use. Write for circular D and special information.

STICKNEY OIL BURNER CO., Portland Me.

The CLEVELAND GAS MACHINE CO.

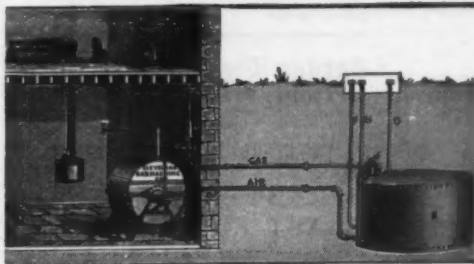
**170 CENTRAL WAY,
CLEVELAND, O.**

MANUFACTURERS OF

Improved Gas Machines

For Illuminating and Heating

purposes. Especially adapted for Canning Factories, Mills, Churches and Stores; Country and Suburban Residences requiring from 50 to 1,000 lights; also Gas-Soldering and Metal-Heating Outfits and Special Machines for Meat-Packing Establishments. Correspondence solicited. Send for illustrated circular.



SAVE GAS. REDUCE BILLS AND SECURE BETTER LIGHT.

The American Gas Saving Co's Gas Controller.

Over 200,000 in use. Saves from 15 to 50 per cent. according to pressure in mains.

Adopted by U. S. Government after competitive tests; New York Elevated Railroad (saving \$11,519.37 in five months, over \$100,000.00 in five years). In use in thousands of Mills, Factories, Hotels, Depots, Public Buildings and Private Houses. Send for descriptive circular and testimonials. Find size of meter on brass plate in front with maker's name.

Full directions for attachment and testing sent with each. Controllers sent for trial on receipt of price, and money refunded, less express charges, if unsatisfactory and controllers returned in good order. All orders C. O. D. Agents wanted.

AMERICAN GAS SAVING CO.,

35 Broadway, N. Y.

GUNS, RIFLES, PISTOLS.

Ammunition and Sporting Supplies

OF ALL KINDS. ADDRESS

The A. G. Alford Sporting Goods Co.

225 E. BALTIMORE STREET, BALTIMORE, MD.



Catalogue Free.

**The New Industrial Light
"Lucigen"**

BRILLIANT, POWERFUL AND DIFFUSIVE.

Burns Petroleum Oil Sprayed by Compressed Air.

SIMPLE, SAFE AND ECONOMICAL.

Thousands in use in Iron Works, Machine Shops, Railroad Yards, etc., etc., in Europe and in the United States.

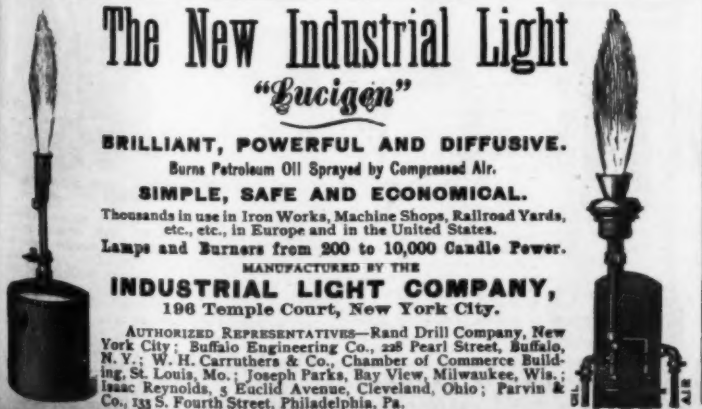
Lamps and Burners from 200 to 10,000 Candle Power.

MANUFACTURED BY THE

INDUSTRIAL LIGHT COMPANY,

198 Temple Court, New York City.

AUTHORIZED REPRESENTATIVES—Rand Drill Company, New York City; Buffalo Engineering Co., 228 Pearl Street, Buffalo, N. Y.; W. H. Carruthers & Co., Chamber of Commerce Building, St. Louis, Mo.; Joseph Parks, Bay View, Milwaukee, Wis.; Isaac Reynolds, 4 Euclid Avenue, Cleveland, Ohio; Parvin & Co., 133 S. Fourth Street, Philadelphia, Pa.



TRADE NOTES.

THE Card Electric Motor & Dynamo Co., of Cincinnati, Ohio, has lately moved into larger quarters, where it is better equipped for handling its increasing business.

MESSRS. BYRAM & CO., Detroit, Mich., exclusive manufacturers of the Colliau cupola furnace, have recently executed a contract for the second Colliau cupola furnace for the United States Government, to be erected at Watervliet Arsenal, West Troy, N. Y. The same company recently shipped two of its 63-inch cupolas to the Pike Manufacturing Co., Pell City, Ala., and two of the same size to the Geo. F. Blake Manufacturing Co., East Cambridge, Mass.

HOW ENORMOUS DEMANDS ARE CREATED. There is no better evidence desired that it pays to use superior machinery than the fact of the Egan Co., of Cincinnati, Ohio, having such an enormous demand for their recent productions, not alone from this country, but heavily from abroad. Experts everywhere realize by experience that this celebrated company are the originators of unsurpassed mechanisms to reduce cost of manufacture and to increase capacity.

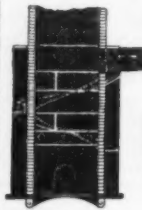
A BOOKKEEPER for a prominent house who gave a duplicate order for West's original entry ledger said: "I am saving one-half my time by using this ledger." West's original entry ledger is published by Wolcott & West, Syracuse, N. Y., and is used in place of a full set of books. Besides saving expense it is claimed for it the important items of saving time and showing good results. The firm will send an illustrated description of this ledger on receipt of three two-cent stamps.

THE Southern Machinery Co., recently organized at Atlanta, Ga., succeeds the well and favorably known firm of R. H. Richards & Co. The company has secured suitable show-rooms well adapted for the prompt shipment of orders, where a variety of machinery of prominent manufacturers, ranging almost from a tack to a locomotive, will be on hand. The additional energy and enterprise this new company combines, with the abilities of the old firm, will no doubt insure for them a full meed of success.

SAMUEL WOODHOUSE, Newburgh, Ohio, manufacturer of crane, cable, dredge and crown proof coil chains, safety chains and coal mine chains, reports trade the past season as very good. Mr. Woodhouse has carried on business in his present plant for the past 17 years, and in that time his products have become favorably known throughout the country for their excellent qualities. Being a practical chainmaker, he personally oversees all orders before leaving the works and guarantees as to material and workmanship. Parties desiring chains of heavy make will find it of advantage to correspond with Mr. Woodhouse before making purchases.

EUFULA, in Southeastern Alabama, has a splendid field from which to draw trade. The place is situated in a healthy section of the South, surrounded by a large tributary country; it is on the Chattahoochee river, 150 feet above high water, and possesses all the principal institutions that mark a prosperous community, such as electric, gas and water works, various factories, competitive railroad and steamboat transportation, churches, public schools, etc. An opportunity is given elsewhere in our columns for an investment in this town presenting attractive features. The Eufaula Furniture & Variety Works, which has been in operation about five months, finding its business increased to such an extent that it is unable to fill all orders, desires to enlarge its facilities and add

more capital. The company is sanguine of the success of its enterprise, and believes that with augmented facilities the already large trade can easily be extended to five times its present volume.



VICTOR COLLIAU,
Sole Manufacturer
OF THE
Improved Patent HOT BLAST
Colliau Cupola.
Address 287 Jefferson Ave.
DETROIT, MICH.



**The COLLIAU
PATENT
Cupola Furnace.**
Adapted to all Foundries,
The Most Economical,
The Lowest in Price.
MANUFACTURED EXCLUSIVELY BY
BYRAM & CO.
DETROIT, MICH.

JAS. P. WITHEROW.
ENGINEER & CONTRACTOR,
Furnace & Steel
Plant Construction.
PITTSBURGH, U. S. A.

Blast Furnaces and Steel Works designed and erected complete in every detail ready for operation. Special attention given to the manufacture of

HEINE
Safety Water Tube Boilers.

Owning an extensive manufacturing plant, I can guarantee promptness in execution, and satisfaction in any contracts undertaken by me.

Gordon, Strobel & Laureau,
(LIMITED),
ENGINEERS AND CONSTRUCTORS,
PHILADELPHIA, PA.
BLAST FURNACES,
STEEL PLANTS,
FIRE-BRICK STOVES,
BLOWING ENGINES.

We are sole manufacturers of the Gordon-Whitwell-Cowper Fire-Brick Hot-Blast Stove, and within four years have introduced them as follows:

Jefferson Iron Works, Ohio.....	4
North Chicago Rolling Mill Co., Ill.....	3
Joliet Iron & Steel Co., Ill.....	4
Missouri Furnace Co., Mo.....	2
Jupiter Furnace Co., Mo.....	3
Western Steel Co., Mo.....	4
Tenn. Coal, Iron & R. R. Co., Ala. and Tenn.....	3
Cleveland Rolling Mill Co., Ohio.....	4
Belmont Nail Co., W. Va.....	4
Sloss Iron & Steel Co., Ala.....	8
Sheffield & Birmingham Coal, Iron & R. R. Co.....	9
Southern Iron Co., Tenn.....	6
Decatur Land, Iron & Furnace Co., Ala.....	2
N. Y. & Perry Coal & Iron Co., Ohio.....	2
Princess Furnace, Va.....	2
Irondale Furnace, W. Va.....	4
Cornwall Anthracite Furnaces, Pa.....	4
Duluth Iron & Steel Co., Minn.....	3
Geo. P. Whittaker Co., Md.....	2
Phila. & Reading Coal & Iron Co., Emsw., Pa.....	3
Burdett Iron Co., Troy, N. Y.....	3
Junction Iron Co., Ohio.....	2
Lawrence Furnace Co., Ohio.....	4
Piedmont Land & Improvement Co., Ala.....	2
Eckert & Brother, Reading, Pa.....	2
Leesport Iron Co., Leesport, Pa.....	2
Total.....	107

THE IMPROVED LANCASTER
Turbine Wheel.

Write for Descriptive Catalogue.



Lancaster Turbine Wheel Co. Lancaster, Pa.

Rome Foundry & Machine Works,
ROME, GA.

Manufacturers of the well known

DAVIS DOUBLE TURBINE

Water Wheel



Beyond all question one of the best Wheels on the market, and is fully guaranteed.

Send for Illustrated Catalogue and Price-List.

ALSO MANUFACTURE
Portable & Stationary Engines
AND BOILERS.

Grist and Flouring Mill Machinery.

The Balanced Gate Turbine.



PAT. SEPT. 3, 1889.
High Percentage,
Great Simplicity,
CLOSE FITTING
—AND—
EASY-WORKING GATE
Under all Circumstances,
Sold under Full Guarantee at Low Prices.

Send for Descriptive Pamphlet.

CHRISTIANA MACHINE CO., Christiana, Pa.

Makers of all kinds of Machinery for Transmitting Power. Perfect Goods Only.

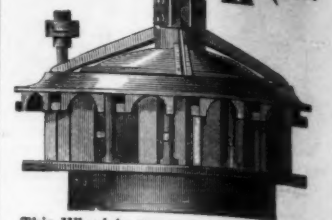


FIRE

Yields quickly to the Miller Chemical Extinguisher.
No. 2 machine (cut) costing \$12 is cheapest, simplest, lightest, strongest, best. Stream 35 feet—no exaggeration—weight 18 pounds. Excels all rivals in having no bottle to break or empty; no handle to pull up; no sudden, unmeasured chemical strain to cause explosion; has but one working part—a non-corrosive full-way faucet; largest capacity is always under steady atmospheric pressure and instantly ready for use; may be tested any time and remain ready for service. No rival can; stream has full force till last drop is expelled. Easily recharged. Thousands in use. Other sizes and styles. Send for circulars, testimonials, etc., to sole Southern Agts.,

COLLINS SUPPLY AGENCY,

Louisville, Ky.

SUCCESS
Water Wheel.

This Wheel is strong and durable. Exceeded all other wheels in the great trial tests. In use all over the nation. I also make a specialty of

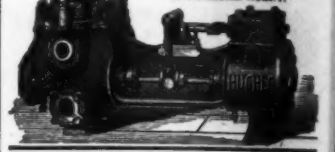
HEAVY GEARING & MACHINERY
For Paper, Cotton and Grist Mills.

S. MORGAN SMITH, York, Pa.

ALCOTT
IMPROVED TURBINE
WATER WHEELS.
MOUNT HOLLY, N. J.

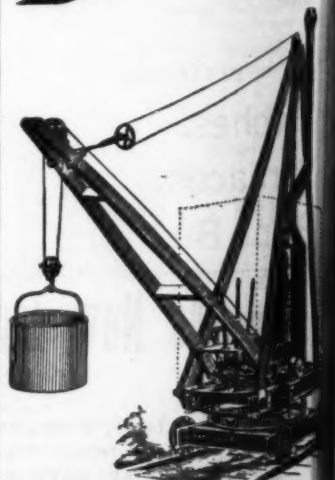
HUGHES STEAM PUMP CO.
CLEVELAND, O.

MANUFACTURERS OF
Single, Duplex and Compound Pumps
FOR ALL PURPOSES.
WATER WORKS PUMPING ENGINES
SEND FOR CATALOGUES AND PRICE LISTS.
Donagan & Swift, New York Agents.
T. R. WINGROVE, 824 NORTH ST.
BALTIMORE AGENT.

DON'T
ENGINE
OR
BOILER

Until you have seen our circulars. Engines ranging from 5 to 110 horse power, both Vertical and Horizontal, at prices below those of other reputable makers. 1600 in use. Boilers of every type. Automatic Engines for Electric Lights. Centrifugal Pumping Machinery for Drainage or Irrigation. Established 25 years. Perfect satisfaction guaranteed. Ask for Circular M and address

Morris Machine Works,
BALDWINVILLE, N. Y.

THE SIMMERLY
DERRICK.

This is a revolving Derrick which makes a perfect circuit from either right or left. It can be worked from a lighter or heavier base as on solid ground. It is adapted for the hoisting of stone, iron ore, coal or any material, and can be used with or without the bucket. Capacity in one lift ranges from one to five tons. Further particulars on application to

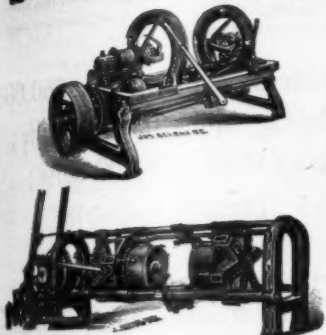
The Simmerly Derrick Co.

101 Center St., Cleveland, Ohio



E. & B. HOLMES,
BUFFALO, NEW YORK,

MANUFACTURERS OF
Barrel Machinery.



Chambers Patent Barrel Heater.

Capacity 300 tight or 500 slack barrels per day.
The best Heater made.

L. & B. HOLMES, Sole Agents.

The WELLINGTON BELT HOLDER.



W. R. SANTLEY & CO., Wellington, Ohio.

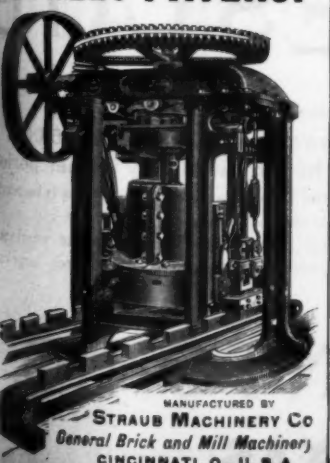
We have erected
STAND PIPES

At the following Places:

Kankakee, Ill.,	20X124
Corwall, Ontario,	20X120
Salisbury, N. C.,	20X100
Washington, Ind.,	20X100
Beaver Dam, Wis.,	20X84
Waterford, N. Y.,	30X53
Berwick, Pa.,	11X45
Homer, N. Y.,	25X40
Cobourg, Ontario,	16X116
Marshall, Mich.,	20X100
Hamburg, N. Y.,	16X125
Canton, N. Y.,	20X72

SHARON BOILER WORKS,
(Limited),
SHARON, PA.

THE GRANT
Brick Machine
IS THE BEST FOR MAKING
STREET PAVERS.



MANUFACTURED BY
STRAUB MACHINERY CO.
General Brick and Mill Machinery
CINCINNATI, O., U. S. A.

AUTOMATIC High-Speed Engine.

ADAPTED FOR
Electric
Light
Plants
AND
Other High Duty.



Engines carried in stock from one horse-power up to one hundred horse-power.
Immediate shipment a specialty.

ADDRESS
RACINE HARDWARE MANUFACTURING CO.
RACINE, WIS.



HUNTER'S
Lightning Sifter and Mixer.

Thousands of them in use by wholesale and manufacturing Druggists, Chemists, Perfumers, Manufacturers of Face Powders, Tooth Powders, Baking Powder, Self-Raising Flour, Paints, Putty, Soaps, Plaster, Etc. Nine different sizes 10 pounds to 10 barrels. Send for catalogue of Sifters and Mixers, Paste Mixers, Dough Mixers, Emulsion Mixers, Pill Mass Mixers and other Special Machinery.

J. H. DAY & CO., Cincinnati, O.
Branch Office, 35 Murray St., New York, N. Y.



LOOK HERE.—Capacity of the Maud S. and Buckeye Steam-Power Feed Mills 15 to 60 bushels chop per hour.
—THE—
Maud S.
AND
Buckeye
Steam-Power Feed Mills
These mills will grind more grain of corn and cob, shell corn, barley, oats and shell corn and oats mixed than any other mill in the market for the amount of power used. Capacity, based on actual lists, guaranteed.
Shell corn, 25 to 40 bushels chop per hour.
Corn and oats, 20 to 40 " " "
Corn and cob, 15 to 35 " " "
Oats and other small grain the amount depends on the condition and firmness of grain. On damp grain the amount will be some less. Many of our customers that are using our mill have ground 60 bushels chop per hour. We make the old style sweep mills, capacity 8 to 12 bushels per hour. Write for prices to **UNION FOUNDRY & MACHINE WORKS, Mansfield, Ohio.**



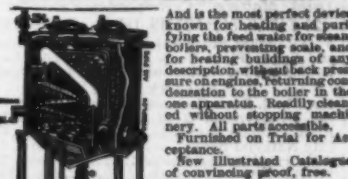
THE FRONTIER MANUFACTURING CO., find as a result of two years of satisfactory trial that their

PATENT LEVER FLUE CLEANER

is the best in the market. Why? Because the ends are protected from breakage by the *hutton*; its native flexibility entirely supercedes the old springs; the only cleaner with a *follower* to remove the refuse. Quicker and more easily adjusted than any other; better made; does better work; lasts longer.

FRONTIER MFG. CO., Buffalo, N. Y.

WEBSTER'S
"VACUUM" EXHAUST STEAM ECONOMIZER
Is a Feed Water Heater and Purifier.



And is the most perfect device known for heating and purifying the feed water for steam boilers, preventing scale, and for heating buildings of any description without back pressure on engines, returning condensation to the boiler in the one apparatus. Readily cleaned without stopping machinery. All parts accessible. Furnished on trial for acceptance. New Illustrated Catalogue of convincing proof, free.

WARREN WEBSTER & CO., Props.
491 E. Third St., Philadelphia.
74 Courtlandt St., New York. 159 La Salle St., Chicago.

WEST BRANCH BOILER WORKS.

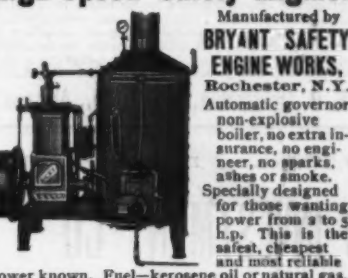


Boilers, Stacks, Tanks and Sheet Iron Works.
Steam Fittings of All Kinds.
E. KEELER CO., Williamsport, Pa.
Agents for Gilbert's Universal Wood Split Pulley.



Send for circular.
Richmond Machine Works,
RICHMOND, IND.

BRYANT IMPROVED AUTOMATIC
High-Speed Safety Engine.



power known. Fuel—kerosene oil or natural gas.

ESTATE OF
GEO. M. CRUICKSHANK,



Builder of
Stationary,
Portable
—AND—
YACHT
ENGINES,
Providence, R. I.
—SEND FOR ESTIMATES.—



"IMPROVEMENT THE ORDER OF THE AGE"

For 15 years all users of typewriters have felt the necessity of their being improved. You will find in the **SMITH PREMIER TYPEWRITER** the latest and best. All the essential features greatly perfected and important improvements. The best investment in cost and mechanical skill have been employed to produce a machine of greater Durability, Excellence of Design and Special Features. We claim, and inspection and trial prove it, the most Durable in Alignment, Easiest Running and Most Silent. All type cleaned in 10 seconds without soiling hands. Send for catalogue. **THE SMITH PREMIER TYPEWRITER CO., Syracuse, N. Y., U. S. A.**

"GO SOUTH,
*
Young Man."

THE HONORABLE CHAUNCEY M. DEWEY, IN AN ADDRESS TO THE ALUMNI ASSOCIATION OF YALE UNIVERSITY, SAID, OF HIS RECENT TOUR THROUGH THE SOUTHERN STATES:

"The net results of this visit to the South, to my mind, is just this—that THE SOUTH IS THE BONANZA OF THE FUTURE. We have developed all the great and sudden opportunities for wealth—or most of them—in the Northwestern States and on the Pacific Slope, but here is a vast country WITH THE BEST CLIMATE IN THE WORLD, with conditions of health which are absolutely unparalleled—with vast forests untouched, with enormous veins of coal and iron which yet have not known anything beyond their original conditions, with soil that, under proper cultivation, for little capital can support a tremendous population; with conditions in the atmosphere for comfortable living winter and summer which exist nowhere else in the country; and that is to be the attraction for the young men who go out from the farms to seek settlement and not by immigration from abroad, for I do not think they will go that way, but by the internal immigration from our own country it is to become in time as prosperous as any other section of the country and as PROSPEROUS BY A PURELY AMERICAN DEVELOPMENT."

GO TO VIRGINIA.

Where the Development is the Widest!
Where the Opportunities are the Greatest!
Where All are Welcome!

From Boston and New England
Go via Merchants' and Miners' Steamship Line, via Norfolk; Pennsylvania R. R. via Norfolk, or Washington, or Harrisburg; Baltimore & Ohio R. R. via Shenandoah Junction.

From New York, New Jersey, Pennsylvania, Delaware, Maryland,
Go via Old Dominion Steamship Line via Norfolk; Pennsylvania R. R. via Norfolk, or Washington, or Harrisburg; Baltimore & Ohio R. R. via Shenandoah Junction.

From Ohio, Michigan and the West
Go via Pittsburg, or via Chattanooga, or via Ashland.

For all information, Reference Books, Mineral Maps, etc., apply at Agencies Norfolk & Western Railroad,
290 Washington Street, Boston.
308 Broadway, New York.
1439 Pennsylvania Avenue, Washington.
67 East State Street, Columbus, O.
Or General Offices, Roanoke, Va.

Southern Investments

Timber Lands bought and sold on commission. I make a specialty of large tracts. Capital invested safely. Timber estimated and valued.

W. H. HOWCOTT,
192 Common Street, New Orleans, La.

R. K. WRIGHT, JR.
Real Estate and Insurance

GRAHAM, Tazewell Co., VA.

REPRESENTING

**Graham Land & Improvement
Co. and Niagara Fire In-
surance Co. of N. Y.**

ASHLAND, KY.

Offers manufacturers superior advantages. Situated in the famous Hanging Rock Iron Region, at the confluence of the Ohio and Big Sandy Rivers, at the head of low water navigation on the Ohio.

IRON, CLAYS AND TIMBER
as cheap as at any point in the Union. Steam coal one to three cents per bushel. Besides the rivers, it now has

5 RAILROADS IN OPERATION.

and three more under contract, one approaching completion. Unexcelled advantages in cheapness and accessibility of raw material and transportation facilities.

In successful operation: Three Iron Furnaces; one Steel Nail Works, with Rolling Mill, largest in the West; Locomotive and Car Works; Dimension Furniture Factory; two Fire and three Red Brick Works and many others.

Large Steel Plant—400 tons daily capacity—constructed by Kelly, Bellefont & Norton Nail Works; Superior Water Works, Street Cars, Electric Lights, and ample Church and School Facilities. Town lots and acreage property on the market at very low rates. Liberal inducements offered meritorious concerns.

ASHLAND IMPROVEMENT CO.

CHERAW, S. C.

Has a population of between 1,200 and 1,500, constantly increasing; one of the healthiest and most beautiful towns in the State; on the great Pee Dee; excellent water power all around it; fine schools; churches of every denomination; literary lyceum and library; eligible town lots; fine timber lands near it; railroads from commercial centers; a delightful place to live. For particulars, address the Intendant.

WM. PENDLETON GAINES,
ATTORNEY AT LAW,
Dealer in Texas and Mexican Lands,
MORTGAGES AND VENDOR'S LIENS.

Money loaned and invested for residents and non residents. *Eighteen years' experience in Land Matters.* Correspondence solicited.

120 E. Sixth St., AUSTIN, TEXAS. P. O. Box 162.
Fine Ranches, Stock Farms, Grain Farms, Cotton and Sugar Plantations, Mineral Lands, Large Bodies of Fine Agricultural Lands for Colonies.

REFERENCES:

Hon. L. S. Ross, Governor of Texas, Austin, Tex.
Jas. H. Raymond & Co., Bankers, Austin, Tex.
First National Bank.....Austin, Tex.
City National Bank.....Austin, Tex.
American National Bank.....Austin, Tex.
Provident National Bank.....Waco, Tex.

THE CLIFTON FORGE COMPANY,

CLIFTON FORGE, VA., situate in the center of the RICHEST COAL AND IRON DISTRICT IN THE SOUTH. A Railroad and Manufacturing Centre, with a present population of thirty-five hundred and rapidly increasing in numbers. Over sixty buildings are under contract, including two fine hotels, two bank buildings, Odd Fellows Hall, Protestant and Catholic Churches, a large Female Academy, and in addition, three large Planing Mills and a Woollen Factory are nearing completion and will go into operation at once. The Chesapeake & Ohio Railroad are building their immense Locomotive and Car Shops at this point, which will give employment to about two thousand skilled mechanics in their operation. A Steam Street Railroad is being constructed on the Company's lands.

LIBERAL INDUCEMENTS TO MANUFACTURERS to locate their plants at this point. Free Sites and Liberal Subscription to Stock will be assured to good industries. As a manufacturing point Clifton Forge is unsurpassed, being the junction of the Eastern, Western & James River Divisions of the great C. & O. R. R. System, and with the close proximity of the rich coal, iron and lumber regions, it makes a substantial claim to cheap fuel, cheap raw material and cheap and reliable transportation, the three necessities to profitable manufacturing.

W. G. McCORMICK, President.
LEWIS HARMAN,
Secty. & General Manager.

Subscribe to the MANUFACTURERS' RECORD

JOHN C. FIELD,
REAL ESTATE,
TREDEGAR, ALA.

Information cheerfully given relative to the proposed improvements to be made in Tredegar, Ala., a town with accomplished realities and not possibilities only. I can offer some property during the summer months at a minimum figure, when considering the certain enhancement of values that is sure to follow. A Steel Plant, giving employment to 3,000 hands, is assured. This plant alone, when taken with the present established population of 2,500, represents a city in excess of 10,000 souls. Other industries of equal importance are guaranteed in additional. Address

JOHN C. FIELD, Tredegar, P. O. Jacksonville, Calhoun Co., Alabama.

B. R. HUTCHKRAFT, Prest.

A. GATLIFF, Vice-Prest.

D. C. EAVES, Sec'y and Treas

THE SOUTHLAND INVESTMENT CO.
REAL ESTATE, STOCK & BOND BROKERS

Room 45 Deaderick Building.

P. O. Drawer 6.

KNOXVILLE, TENN.

OUR BUSINESS.

We Buy and Sell on Commission Real Estate, Stocks and Bonds.
Organize Companies to handle Mineral and Timber Lands.

Report upon Costs of Mine Equipments, including Tramways and Railways.
Maps and Profiles Furnished. Reports upon Value of Lands and Abstracts of Titles Furnished.

Act as Agents for Local and Non-resident Property-holders to Collect Rents and Sell Property.

Come and see us; if we do not have what you want we will get it for you.
List your property with us.

Six Trunk Line Railroads at**BESSEMER**

In the heart of Mineral Alabama, encircled with hills of Coal, Iron and Limestone Rock.

"The South is the coming El Dorado of American adventure. May the Almighty speed and guide her onward progress!" So wrote the Hon. W. D. Kelley, M. C., of Pennsylvania, a few months ago without a doubt the South is to be the richest country upon the globe. In climate, soil, mineral and timber wealth, in rivers large and small, in a long seacoast, in abundant rainfall, in healthfulness and in every other advantage that could be asked nature seems to have done her best for this favored land. The wealth in iron and coal is beyond estimate. Of timber there is an unlimited supply, including nearly every variety of hardwoods for woodworking purposes.

Seven Furnaces, output 1890, 250,000 tons; Rolling Mill, 100 tons daily;
Fire Brick Works, 25,000 daily;
Many Lesser Industries

**WHERE
MONEY
WILL
GROW!**

Offers Thirty Varieties of Hardwoods
for Woodworking Industries.

11,000 City Lots For Sale.

The Bessemer Land & Improvement Co.

this new year, are prepared to deal liberally for the founding of Iron and Woodworking industries in this growing Mining and Manufacturing Center.

H. F. DeBARDELEBEN, Prest.

H. M. McNUTT, Secretary.

EDMONDS & ROBINSON,

In the development of its agricultural, mineral and timber resources; in its general upbuilding and advancement, Texas is making more rapid progress than any other State in the Union. Its population is increasing at a stupendous rate. Millions of dollars from the West and Northwest, from the New England States and from England are pouring into the State for investment in factories, mills, railroads and commercial enterprises.

San Antonio is the commercial and financial center of the great South and Southwest Texas. It is a city of 55,000 population, is the center of the most important railroads in the State, has four national and five private banks, building and loan associations, a large number of industrial establishments and some of the largest jobbing houses in the Southwestern States.

LAWYERS

AND DEALERS IN

REAL ESTATE

In the matter of homes it is the handsomest city in America.

In twelve years it has grown from 20,000 to 55,000.

It is growing more rapidly now than at any former period.

Property in and around San Antonio and throughout Southwest Texas is increasing in value every day. *It will never again be as cheap as it is now.*

There is no place in the world offering greater inducements for the purchase of real estate, either for investment or speculation, with assurance of such large and certain profits.

**SAN ANTONIO,
TEXAS.**

LAWRENCEBURG, TENN.

The Coming Residence and Industrial City of the Great Western Mineral Belt of Tennessee.

THE LAWRENCEBURG LAND & MINERAL CO.

Capital - - - \$1,300,000.

E. F. CRAGIN, PRESIDENT.
CHICAGO, ILL.

V. S. PEASE, SECRETARY
NASHVILLE, TENN.

F. H. FOSTER, ASST. SECRETARY.
CHICAGO, ILL.

OFFICES: Room 63, 185 Dearborn Street, Chicago, Ill., and Lawrenceburg, Tenn.

MANUFACTURING.

WANTED.—Furniture Factories, Sash, Door and Blind Works, Brick and Terra Cotta Works, Tanneries, Carriage Works, Barrel Factories, Spoke and Bending Works, Chair Factories, Cart Factories, Woolen Mills, Cotton Mills, Foundries, Machine Shops and other Small Industries.

It will be the policy of this Company to secure a large number of small industries, diversified in character, so that the shutting down of one plant will not paralyze the whole town.

CHEAP WOOD and IRON

are our strong cards.

HEALTH.

In another portion of the city, back from smoke and noise is *Lawrenceburg Heights*, the *Healthiest Place in America*. A rival to Asheville, N. C., in healthfulness and delightful climate, both in winter and summer.

An ideal all-the-year resort, laid off in beautiful drives, parks, an artificial lake, well watered by *pure freestone springs*.

The water a sure cure for kidney disease and other like complaints.

The air and climate a cure for consumption and throat diseases.

Hotels will soon be built in the Heights. Lots will be sold there with building limit.

Beautiful scenery, fishing, boating and hunting

FOR PROSPECTUS AND BY-LAWS ADDRESS

Lawrenceburg Land & Mineral Company,

Or at Lawrenceburg, Tenn.

Room 63, 185 Dearborn Street, Chicago, Ill.

HAGERSTOWN, MD.

At the Mouth of the Shenandoah Valley.

THE MAGIC CITY OF MARYLAND.

POPULATION IN 1884, 5,000; IN 1890, 12,000. WILL BE IN 1895 25,000.

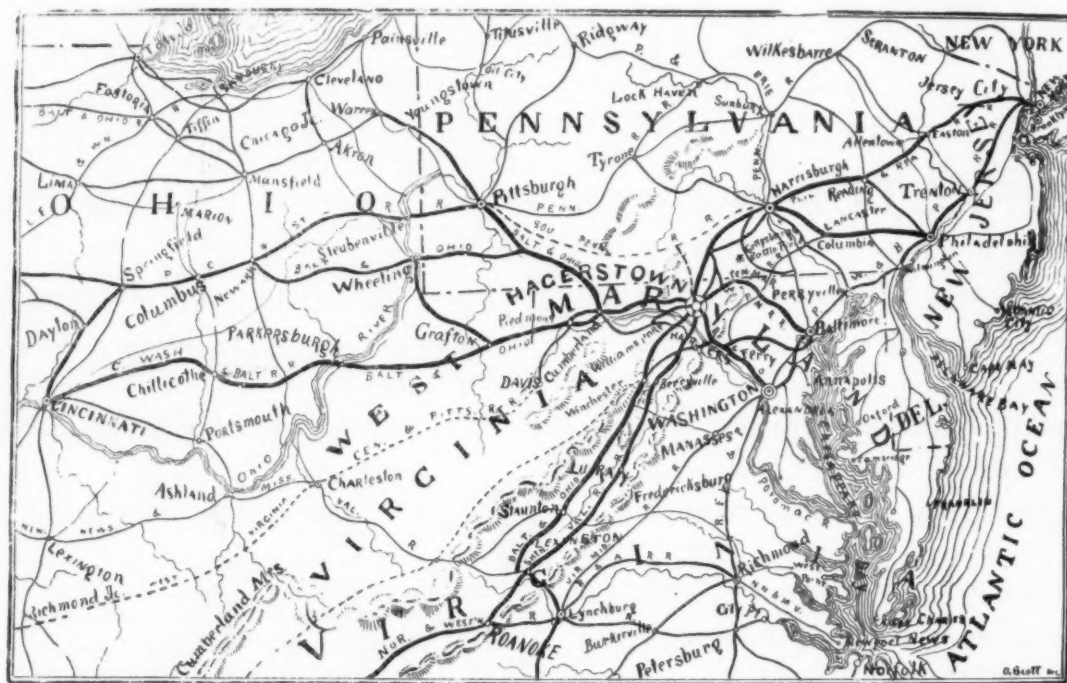
Her Growth Marvelous. Her Future Magnificent. 6 Railroads. Fifty Passenger Trains Daily (50.) Thirty-nine Mail Trains Daily (39). Unsurpassed for Manufacturing Facilities—95 already located, 6 in the last three months.

Its location commands the trade of Maryland, Virginia, West Virginia and Southern Pennsylvania. Substantial assistance given to manufacturers to locate here. Has magnificent Hotels, firm and well-graded Streets, Electric Lights, Pure Mountain Water, Free Postal Delivery and Electric Railway about to be built.

Ores, Timber and Agricultural Products

Cheap and in the Greatest

Abundance.



Manufacturing Locations.

Every Desirable Advantage here for all who are seeking Homes, Business, or

This map shows the location and railroad facilities of Hagerstown, in the "Garden Spot" of the Cumberland Valley.

Hagerstown Manf'g., Mining & Land Improvement Co.

WASHINGTON COUNTY, MD., REAL ESTATE DEALERS,

Own and Control about 1,000 Acres of Land adjoining the City Limits.

Capital Stock,	- - - -	\$1,000,000
Remaining in Treasury,	- - - -	575,000

OFFICERS.

PHARES M. MISHLER, Pres't.	R. M. KEEDY, Secretary.
J. D. MAIN, Treasurer.	H. H. STRAUB, Acting Sec'y.

DIRECTORS.

CHAS. W. SEBOLD, President, and Manager of the Hagerstown Spoke and Bending Works.
 S. M. SCHINDEL, President and Manager of the United Silk Mfg. Co.
 PHARES M. MISHLER, President and Manager Inter-State Fencing Co.
 J. HANSON BEACHLEY, Wholesale and Retail Merchant.
 CORNELIUS L. KEEDY, Proprietor and President of Kee Mar College.
 REUBEN M. KEEDY, formerly in the Wholesale Notion Business.
 J. D. MAIN, Merchant and Secretary of the Hagerstown Hedge & Fencing Co.
 ALEX. R. HAGNER, Counsellor-at-Law and Attorney for Second National Bank.

You Cannot Make a Better Present to Your Wife or Children than by giving them some Shares
in a 20 per cent. Paying Stock.

BEST PAYING INVESTMENT ON EARTH.

FLORIDA HAVANA TOBACCO GROWING.

THE

C. S. Philips Patent Process Tobacco Growing & Curing Co.

Incorporated Under the Laws of New York. Twenty (20) Patents.

PLANTATIONS, 14,000 ACRES, FITZHUGH, POLK COUNTY, FLORIDA.

CAPITAL STOCK, \$1,500,000.

Divided into 150,000 Shares of \$10 each, full paid and unassessable.

CHAS. S. PHILIPS, President.

HARRY R. MILLER, Treasurer.

WM. H. CUTLER, Vice-President, Garfield Building, Brooklyn, N. Y.

70,000 Shares of Twenty (20) Per Cent. Preferred Stock of \$10 Each, of which there are 25,000 Shares yet for sale, and growing less every day; 80,000 Shares of Common Stock of \$10 Each, which are all taken by parties in the tobacco trade.

GREAT LAND PURCHASE.

TO WHOM IT MAY CONCERN.

This is to certify that the C. S. Philips Patent Process Tobacco Growing & Curing Company, of New York City, of which Mr. Charles S. Philips is president, has purchased from the South Florida Railroad Co. and the Plant Investment Co., through me and my office as Eastern Agent for the said companies, 13,558.71 acres of land, which is located in Polk County, Fla., being near Fitzhugh and Lake Hancock, and are the lands on which the said company is now planting tobacco.

November 27, 1899.

Respectfully,

J. D. HASHAGAN, Eastern Agent,
261 Broadway, New York, N. Y.

To show our good faith and confidence in the large profits this Florida Havana Tobacco Growing & Curing Company expects to pay its stockholders the 80,000 shares used for the purchase of the Lands and Patents shall receive no dividends until twenty (20) per cent. per annum has been paid to the purchasers and holders of the 70,000 shares of the Working Capital Stock, the only stock that is for sale. This company is in full working order on the plantation putting in a crop which will be harvested this spring, and every dollar realized from the sale of the stock will be used only for the purpose of extending the acreage of the crop, and the profits the first year will not be less than twenty (20) per cent. or two dollars (\$2) per share each of ten dollars (\$10) The McKinley Bill puts two dollars (\$2) per pound duty on imported leaf, such as we produce in Florida, which enables us to sell our tobacco in the American market at much higher prices than the Cuban planter gets, and greater profit. Our Patent Curing Process saves three (3) years time in the curing of tobacco, and the process is a perfect and continuous one from the day it is harvested from the field. We shall run the profits to more than one hundred (100) per cent. in the course of two (2) or three (3) years. Fill out the application for shares for as many as you want or can pay for on the installment plan and mail it with amount of first instalment to our office.

The following certificate from the expert patent attorneys proves our claim to a right to the entire curing business under our patents, as we have no competitor in the Patent Office nor in the world, a very unique and enviable position for us and our stockholders.

HUBERT A. BANNING,

LAW OFFICES OF BANNING & MONROE

ROBT. GRIER MONROE.

Patents, Incorporations, Trade Marks and Copyrights, Morse Building, 140 Nassau St., New York, January 9, 1899.

CHARLES S. PHILIPS, ESQ., New York City.

DEAR SIR—After a thorough consideration of the state of the art, with which we have become familiar by long study and professional services in connection with the patents relating to the treatment, etc., of tobacco, and in view of the fact that the United States Patent Offices have given no reference anticipating your discovery as to the proper relations which should exist between the degrees of the heat and percentages of moisture, we do not believe that anyone ever preceded you in making the discovery. We are confirmed in this view by the absence of any theory or discussion of the process as described by you, either in any printed publications or patents or technical works pertaining to the treatment of tobacco. We know of no one who can possibly be your competitor in this matter, and have every confidence in your process, both as to its novelty and utility, and your right to the exclusive use of it.

Yours respectfully,

BANNING & MONROE.

To place a valuation of two million dollars on the patents would not be out of the way, as they are beyond the experimental stage and are earning about thirty thousand dollars per year, and it is expected that within the next three to five years the net income from the patents alone will amount to at least five hundred thousand dollars (\$500,000) per year, and ought to go to more than a million dollars (\$1,000,000), as this patent curing process saves three to four years' time and interest on the money on the cost of the crop for that length of time in the curing of "Fillers" (which is about one-half of the crop) and one to two years' time in the curing of the "Wrappers," which is the other half of the crop.

PUTNEY, WINDHAM CO., VT., June 10, 1899.

MR. C. S. PHILIPS, 188 Pearl St., New York.

DEAR SIR—We have used your process in the curing of a package of the 1899 crop of tobacco. The tobacco was put into the sweating room March 25. It was kept in the process until May 22, making fifty-nine days. It was stripped and sampled June 4. We are well pleased with the result. The curing is the most perfect of any lot we ever sampled, the tobacco being more uniform in its curing and color, and the outside as well cured as in the middle. From the tip of the leaf back to the hand the color was even, showing none of the green spots we see in so much of our sweet tobacco. We are so well pleased with the result we should never wait for a packing to cure by summer heat, etc.

Respectfully yours,

E. O. & H. D. GASSETT.

ENORMOUS DIVIDENDS paid to the stockholders by the Dutch companies. Do not say we cannot do even better.

From the reports of the four largest Dutch or Sumatra tobacco growing companies we take the following figures as to the dividends which they declared. Nearly all of the fine wrapper leaf grown by these companies was consumed in this country.

DIVIDENDS PAID—PER CENT.

NAME OF COMPANY.	1885.	1886.	1887.	1888.	1889.
Deli Mattschappij	101	77	31.7	108	115*
Amsterdam Miatschappij	30	60	100	100	153
Amsterdam "	30	30	70	30	80
Batavia "	45	36	34	35	135

* Besides about \$2,000,000 written off for purchase on new estate.

The above figures are cold facts for investors to well consider before they decide not to improve this golden opportunity to invest in this American company.

CUT THIS OUT.

FORM OF APPLICATION FOR SHARES.

MR. CHAS. S. PHILIPS, President, 188 Pearl St., New York.

I HEREBY SUBSCRIBE TO _____ Shares of the
C. S. PHILIPS PATENT PROCESS TOBACCO GROWING & CURING CO., at \$10 per
Share, non-assessable, and agree to pay 20 per cent. on subscribing [\$2 per Share] and 20
per cent. per month until all Installments are paid.

Enclosed find First Installment of \$ _____ Dollars.

Date, _____

Name, _____

Postoffice Address in full, _____

Please date and fill out this blank for the number of shares you wish to subscribe for. Sign your name and address on the blank lines under the date and enclose Check or Draft for one-fifth of the amount you subscribe for and mail the same to the above address, upon receipt of which you will receive a proper receipt, and a regular Engraved Certificate of Stock for the number of shares you subscribe for when the last installment is paid. Agents wanted. Write for particulars.

This Blank to be Filled Out, Signed and Sent to 188 Pearl Street.

STODDARD, LOVERING & CO., 152 Congress Street, Boston, Mass., Sole Agents for DOBSON & BARLOW'S COTTON MACHINERY.



THE DENN WARTER

WITH NEW DOUBLE LINKER,
Makes the BEST WARP in use.

SEND FOR CUTS AND PRICES.

Single Linkers Altered to Double Linkers.

GLOBE MACHINE WORKS,
FRANKFORD, PA.

VAN WINKLE GIN & MACHINERY CO.

ATLANTA, GA., and DALLAS, TEX.



MANUFACTURERS OF
COTTON GINS, FEEDERS,

CONDENSERS AND PRESSES,

COTTON-SEED OIL MILLS,

SHAFTING, PULLEYS, WIND MILLS, TANKS, PUMPS, Etc.



The BEST COTTON-SEED OIL PRESS IN THE MARKET

Boxes Made Entirely
of Steel.

CAPACITY:

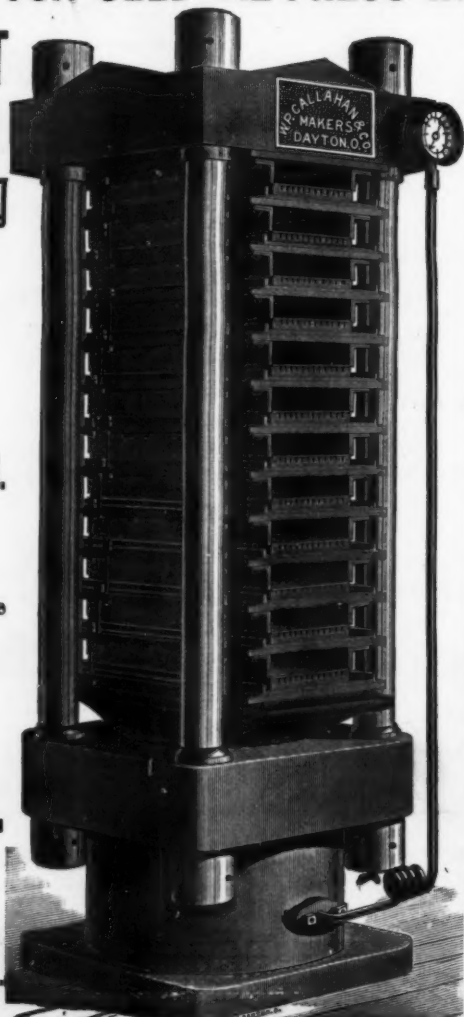
12 Tons in 24 Hours.

Parties contemplating the
erection of Cotton-Seed
Mills should
address

W. P. Callahan & Co.

DAYTON,

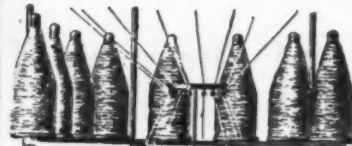
OHIO.



THADDEUS S. COBB & CO.
MANUFACTURERS' AGENTS AND DEALERS IN
MACHINERY OF EVERY
DESCRIPTION.
36 Central Street, Lowell, Mass.

NYE & TREDICK

MANUFACTURERS OF



Automatic Circular Rib

Knitting Machines

FOR

Plain and Fancy Ribbed Under-
wear, Skirts, Caps, Jackets,
Jerseys, Leggings, &c.

AGENTS FOR THE

KEYSTONE KNITTER,

FOR

SEAMLESS HOSIERY.

Winders, Loopers, Steam
Presses, Hosiery and
Shirt Boards, &c.

ADDRESS

NYE & TREDICK, 608 Arch Street, Philadelphia, Pa.

Cotton-Seed Oil Machinery.

GET THE BEST.

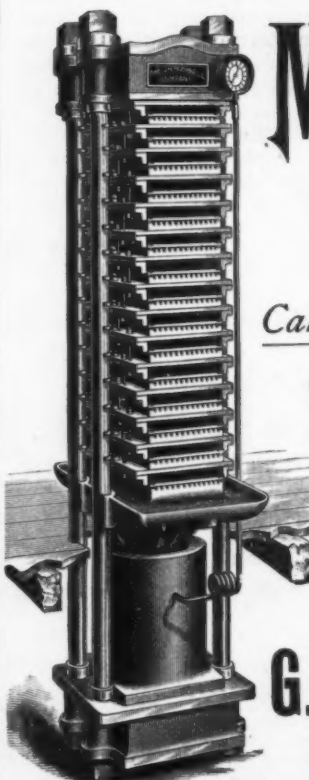
*Presses, Pumps,
Cake Formers, Meal Heaters,
Chilled Roll Crushers,
Etc.*

Send for Cuts and Prices.

THE

G. H. BUSHNELL CO.

THOMPSONVILLE, CONN., U. S. A.



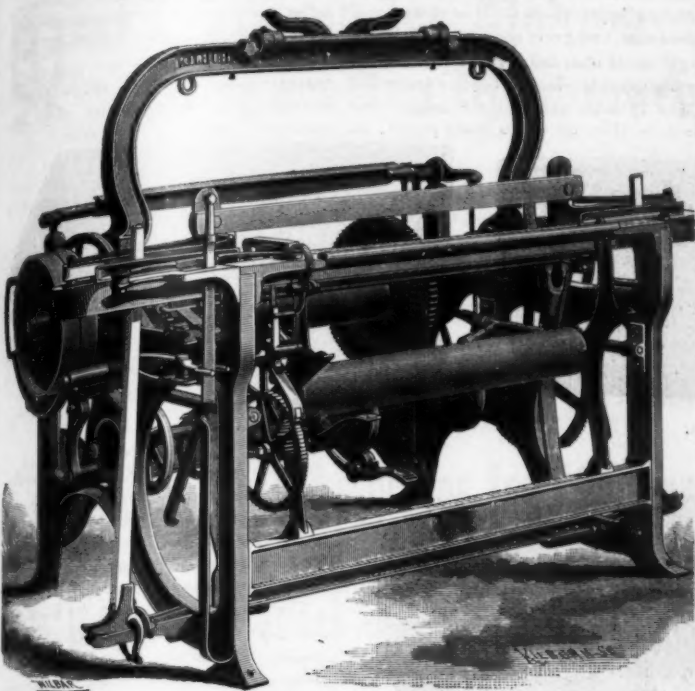
IMPROVED HYDRAULIC PRESS.

Our Oil Presses are fitted with Tiffany Oil Mats, Steel Boxes, Cast Steel Cylinders.

NONE BETTER.

KILBURN, LINCOLN & Co.

FALL RIVER, MASS.



LOOMS

FOR COTTON AND SILK WEAVING.

Special Patterns for Weaving Cambric, Muslin Sheetings, Tickings, Ducks and Print Cloths.

The Seaconnet Mills, Fall River, wove in 300 days of 10 hours each 14,039,000 yards of goods on 920 of our "New High-Speed Looms," a daily average of 50 7-10 yards per loom per day.



BY WRITING TO

C. R. ENGLISH, 216 Purchase St., Boston, Mass.

YOU CAN OBTAIN

CARD CLOTHING

OF GUARANTEED QUALITY AT LOWEST PRICES.

REFERENCES TO NUMEROUS SOUTHERN MILLS NOW USING IT.



Clark's Patent Rubber Rolls

For Wool Scouring Machines, Warp, Yarn and Skein Dyeing Machines and Bleachery Use, etc. Also Complete Power Wringers, all styles. Only Rubber Roll that will withstand heavy pressure. Catalogue of rolls free.

GEO. P. CLARK, Box C, Windsor Locks, Ct.

Salem Foundry & Machine Shop

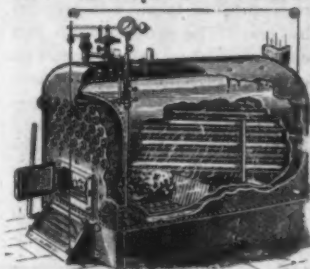
SALEM, MASS.

ELEVATORS,

AUTOMATIC HATCH DOORS, AUTOMATIC LOCK GATES.

Send for Illustrated Circular.

The STAR WATER TUBE BOILERS



Range in capacity from 1,000 sq. ft. of radiating surface to 6,000 sq. ft. Any special size made to order.

Steam or Hot Water Heating.

OR POWER.

THE FIREBOX dispenses with all brick setting. WATER TUBES and FIREBOX give best possible fire surface. Cast iron BACK full length and width of boiler, fitted with improved SHAKING GRATE, accompanies each boiler.

Full Particulars and Prices cheerfully given.

Harrisburg Boiler & Mfg. Co.
HARRISBURG, PA.

See Star Gas Burner next week.



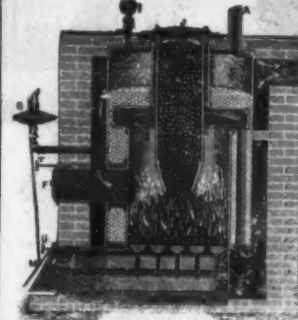
PIERCE, BUTLER & PIERCE MFG. CO.,
MAIN OFFICE, SYRACUSE, N.Y., U.S.A.
NEW YORK BOSTON CHICAGO
60 Barclay St. 237 Franklin St. 96 Lake St.

FLORIDA HEATING APPARATUS

Made in 19 Sizes for Steam. For STEAM or WATER, HARD or SOFT COAL.
Made in 14 Sizes for Water. THOUSANDS IN ACTUAL USE
Made in 15 Sizes for Soft Coal.

WASHINGTON, D.C.—N. L. CHAPPELLE & CO.
BALTIMORE, MD.—ALVA HUBBARD & CO.
KANSAS CITY, MO.—GOSHE HEATING & PLUMBING CO.
ST. LOUIS, MO.—N. O. NELSON MFG. CO.
EUROPEAN ROBERT DAWSON & CO. LIMITED, STALYBRIDGE, ENGLAND.
AGENTS: A. B. RECK, COPENHAGEN, DENMARK.
Write for our 3 catalogues.

THE DUNNING PATENT WROUGHT-IRON BOILER



WITH SELF-FEEDING COAL MAGAZINE

IS THE BEST FOR

Low-Pressure, Steam or Hot-Water Heating,

And insures a warm house night and day. Over 15,000 in use. Keeps steam up constantly. Also

Steam Engines & Boilers of all kinds & Machinery generally.

MANUFACTURED BY THE

NEW YORK CENTRAL IRON WORKS CO.

36 Exchange St., Geneva, N.Y. New York Office, 36 Park Place.

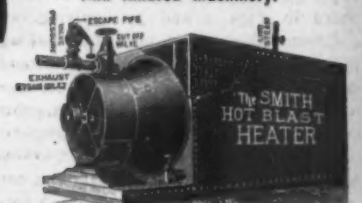
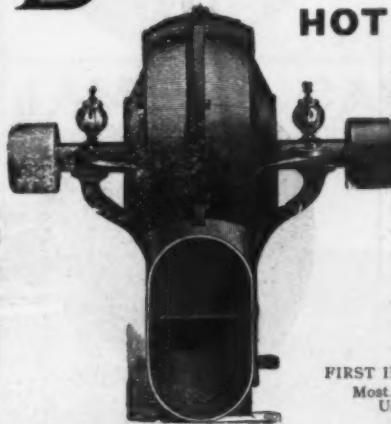
Send for illustrated catalogue with full description and price-list. Correspondence solicited from architects and persons building. Agents Wanted.

Blowers. Fans. Heaters.

HOT BLAST

DRY KILNS

And Kindred Machinery.



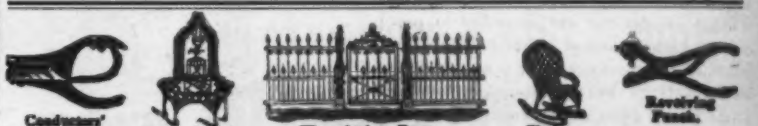
FIRST IN THE FIELD, BUT LATEST IN DESIGN.

Most Economical of Power. Fully Guaranteed. Users, Machinery Dealers and Architects should correspond with

HUYETT & SMITH MFG. CO.

(Heating and Ventilating Engineers.)

DETROIT, MICH.



FRED. J. MEYERS MFG. CO.
COVINGTON, KY., Manufacturers of

WIRE GOODS OF ALL KINDS,

Wrought-iron Fencing, Cresting and Hardware Specialties.

Send for Illustrated

Catalogue and Price List.



Window Guard.



Wire Counter Railing.



Mesh Screen.

The Salem Mill and Elevator Bucket.

The accompanying cuts are illustrative of an article which, by reason of the varied service to which it can be successfully applied, is a valuable adjunct to the modern methods for the rapid and economical handling of materials. The Salem mill and elevator is manufactured according to ideas which a long experience proved to embody desirable qualities, from

and addition were made enabling the manufacturers to produce them in larger sizes and at less cost. The patrons of this firm were benefited by these improvements in the reduction of prices from time to time, and since the recent addition of several large and expensive machines designed expressly for the manufacture of Salem buckets, the firm makes a further reduction in price which the use of these machines afford. The Salem, for which the claim of being the ideal bucket of the age is ad-

Improved Center Crank Engine and Scotch Marine Boiler.

The "cut" given below shows the Richmond Machine Works' center crank engine with late improvements. It is strong and substantial, being very compact, is not likely to get out of line, and is especially adapted for high speeds, electric light or saw mills.

The cylinder and bed are cast in one piece in sizes up to 50 horse-power; in

and made by reliable works, will no doubt be appreciated by users of steam power and have a large sale.

The "Scotch marine" return flue portable boiler combines the desirable features of the ordinary portable with the strength, safety and durability of the stationary, and is giving satisfactory results wherever used. They are made of the best open-hearth homogeneous steel of 60,000 tensile strength, and the horizontal seams are double riveted on the larger sizes.

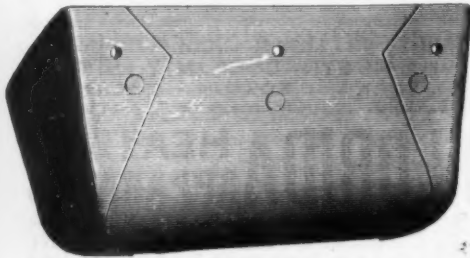


FIG. 1.



FIG. 2.



FIG. 3.

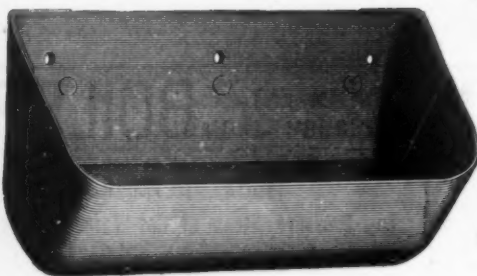


FIG. 4.

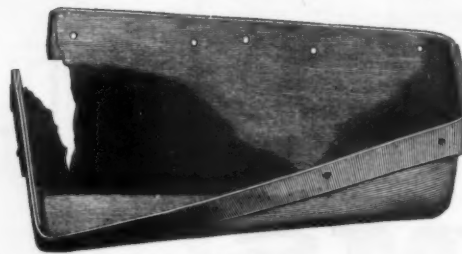


FIG. 5.

selected material and under the supervision of skilled workmen. The extensive sale which this bucket has met is a commendatory testimonial to its efficiency, and the following details relative to its construction are of interest. It is made from one piece of steel, cut so that when stamped into the most approved shape, the front and ends are smooth, with seamless front corners and double thickness at the bottom corners and the back, as shown by Fig. 1.

The additional strength and rigidity of shape thereby secured is a distinctive feature, and the bucket is further strengthened where it is bolted to the carrying belt by a binding piece which straddles the upper part of the bucket back, as illustrated in Figs. 2 and 3, supplying two additional thicknesses of metal, making four thicknesses altogether to withstand the strains which sometimes tears elevator buckets from their carrying belt, this construction rendering the Salem comparatively safe for ordinary mill and elevator work, for extra heavy work, handling ear corn, ores, coal, broken stone, etc. A patent re-enforced back is introduced, as illustrated by Fig. 4, which, it is stated, effectually guards against damage and loss of time occasioned by buckets breaking loose or being pulled out of shape. The re-enforcing piece extends out upon and is riveted to the ends as well as the back, making the former double and the latter triple thick at the corners, where bracing strength is desired and intended to prevent the tearing out of either bolt holes or back. The re-enforce piece is not required in buckets of heavy material, which of itself is said to be strong enough to break the bolts with which they are fastened to the carrying belt.

Fig. 5, a cut of an ordinary square-cornered banded bucket, illustrates the advantage of the "double thick" and "re-enforced" back described, and the merit of rounded corners that are less liable to catch.

The shape and peculiar construction of Salem elevator buckets necessitated the building of machinery specially adapted to their manufacture at the outset, and during the succeeding fifteen years improvements

vanced, is, therefore, not a high-priced bucket.

W. J. Clark & Co., Salem, Ohio, manufacturers of elevating and conveying specialties, are also the sole manufacturers of the "Salem" mill and elevator bucket, and Thornburgh & Glessner, Chicago, Ill., are general agents.

On December 2d the Aetna Machine Co., of Warren, O., closed a contract with

larger sizes the cylinder is cast separate and securely bolted on.

The slides are a part of the bed and cannot spring. The cross head is of the latest design and has bevel gibbs for taking up wear, allowing adjustment with accuracy and ease.

Both steam and spring packing can be used for piston, as preferred.

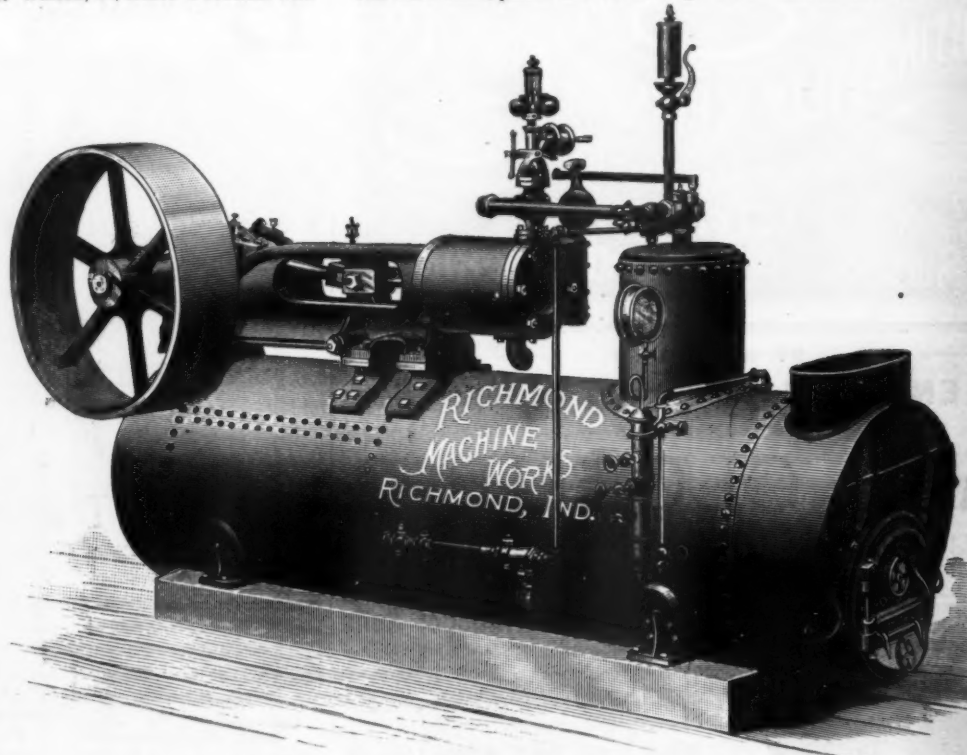
The main shaft, piston and connecting

The improved boiler made at these works has one large flue running through the entire length, with as many small tubes as can conveniently be inserted. The circular form of main flue or fire-box is considered the strongest known.

The flame passes through the main flue and does not strike the tubes until it reaches the rear end, thus saving the flue sheet and the end of tubes from the intense heat of the fire-box, and also from the cold air when the fire-door is open, which evidently insures the tubes from the liability of leaking.

The flame passing the full length of boiler in main flue and returning the full length in small tubes affords an economical arrangement. This form is made in sizes up to 50 horse-power, but any style desired can be had. Fuel 6 feet and longer can be utilized.

Parties contemplating purchasing boilers or engines should investigate the merits of the product of the Richmond Machine Works, Richmond, Indiana.



IMPROVED CENTER-CRANK ENGINE AND SCOTCH MARINE BOILER.

Mr. George Westerman, general manager of the Westerman Natural Gas & Iron Co., for a 400 horse-power engine to drive a train of rolls in the rolling mills which that company is now building at Marion, Ind. This is the second engine sold Mr. Westerman by the Aetna Machine Co.; the first was furnished about a year ago and is being used to drive a train of rolls in the rolling mills of Westerman & Co. at Lockport, N. Y.

rods are forged steel, and the main boxes are filled with the best anti-friction metal. They are either mounted on boiler or on foundation at the side, as preferred. In sizes up to 25 horse-power they are generally mounted on the boiler, as shown in cut. Any standard make of governor can be used as desired by customers. These engines, being of a late and approved design

MANAGERS of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises and needing machinery or supplies of any kind will find it profitable to consult the advertising columns of the MANUFACTURERS' RECORD. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.

E. A. BAUMER,
President.

S. W. TRAVERS,
Vice-President.

WM. SIMPKIN, A. & M. E.
American Soc. Mech. Eng., General Manager.

THE RICHMOND ICE-MACHINE CO.

MANUFACTURERS OF THE

Most Improved Ice-Making AND Refrigerating Machinery ON THE COMPRESSION PLAN.

A WORD IN YOUR EAR.—Our Machines are giving satisfaction and making the guaranteed amount of Pure, Solid, Transparent Ice.

WE HAVE UNDOUBTEDLY THE BEST AND SIMPLEST MACHINE ON THE MARKET.

We guarantee the proper working of our machinery. All working parts built to gauge, so they can be readily duplicated, and nothing but the very best material used. Specifications and estimates furnished. Correspondence Solicited.

Works, MANCHESTER, VA.

Office, 1105 Main Street, RICHMOND, VA.

P. O. BOX 315.

Send for our Pamphlet "How to Make an Ice Factory Pay."

L. H. SKEE, President.

INO. CAREY, Secy. & Treas.

W. COOK, Superintendent.

ATLANTA MACHINE WORKS,

MANUFACTURERS OF

The Cook Improved Absorption Ice Machine

Boilers, Tanks, Smoke Stacks, Shafting, Hangers, Pulleys,
Saw Mills, Mill Gearing.

GOLD MINING AND STONE-WORKING MACHINERY.

ATLANTA, GA.

ICE MACHINE PAINT.

Made expressly for use on all surfaces of either wood or metal coming in contact with water, acids, ammonia, heat or cold. A DURABLE PAINT AT REASONABLE COST.

METALLIC PAINT for Roofs, Barns, fences and all Exposed Surfaces.

Write for circulars and prices. Manufactured only by

A. F. BOUTON & CO., 118 Gansevoort St., N. Y.

Menasha Hard Wood Pulleys.

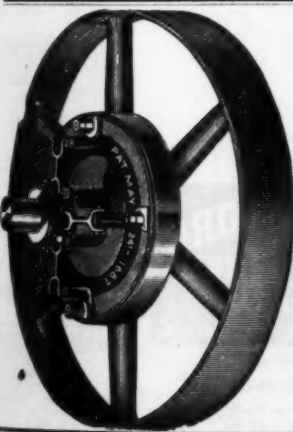


We are sole makers of hardwood bent rim, oak spoke arm Pulleys: gripped to shaft with bolts, and using patent paper bushings. They can be put onto shaft without taking it down or cutting keyseats. No glue or nails used in their construction. Hub with bushing fits any size of shaft.

Also sole makers of only small Split Pulley 1 inch to 8 inches in diameter, in the market. See above cuts of them. No glue or nails in them. No Keyseats to cut. Also sole makers of only Hickory Hanger in the market; it has iron box. Send for illustrated circulars and discount.

MENASHA WOOD SPLIT PULLEY CO., Menasha, Wis.

BRANCH HOUSES: A. Van Vechten & Co., 165 Greenwich St., New York; H. N. Bates & Co., Boston; Chas. A. Turner, Pittsburgh, Pa.; Greene & Wood Mfg. Co., Philadelphia, Pa.; W. D. Allen & Co., Chicago and Minneapolis; E. L. Cole, New Orleans, La.; Thos. J. Bell & Co., Cincinnati; L. M. Rumsey Mfg. Co., St. Louis; Will J. Dunn, Atlanta, Ga.



The MOORE & WHITE CO

1312 Buttonwood St., PHILADELPHIA, PA.

Friction Clutches, &
Cut-Off Couplings, &c.
Paper Mill
Machinery, &c.

Todd Pulley and Shafting Works

EAST ST. LOUIS, ILL.

MANUFACTURERS OF

Machine Molded Pulleys,
HANGERS, BOXING, COUPLINGS,

SHAFTING,

Standard BOILER FRONTS

Contracts Made for Machinery Castings of all Descriptions.

Write for Prices and Catalogues.

Refer to us Before Buying.

SULZER-VOGT MACHINE CO.

LOUISVILLE, KY.

ICE MACHINES



AND REFRIGERATING
PLANTS
FOR
BREWERS
PACKERS
AND
DEALERS.

PATENTED ABSORPTION SYSTEM
LATEST IMPROVEMENTS GREATEST ECONOMY

WRITE FOR
ESTIMATES

Castle Automatic Absorption Ice Machine.

Uses but 210 degrees of heat in the retort, saving all the water for cooling the gas and the weak liquor from 320 degrees down to 210 degrees, and uses none for the absorber. Small machines are complete on heavy-cast foundation plate. Automatic in operation. Warranted High-Class and Positive. Hotels, creameries, &c., can make their own ice or refrigerate without additional help. Sizes 500 pounds to 10 tons per 24 hours.

CASTLE ENGINE WORKS, Indianapolis, Ind.

FARRELL & REMPE,

MANUFACTURERS OF

Wrought Iron Pipe Coils



FOR
Ice and Refrigerating Machines.

COILS OF ALL DESCRIPTIONS FOR

Heaters, Soap Makers, Chemical
Works, Blast Furnaces, &c.

PIPE BENDING of All Kinds A SPECIALTY.

799, 801, 803 & 805 OGDEN AVENUE,
Cor. Campbell Avenue,

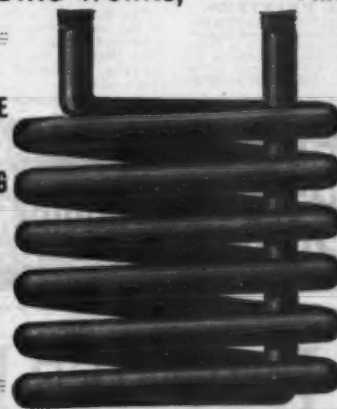
CHICAGO, ILL.

JAMES D. CARDELL & CO.

PIPE BENDING WORKS,

Philadelphia, Pa.

Coils of
WROUGHT IRON PIPE
for
ICE and REFRIGERATING
MACHINES,
CHEMICAL WORKS,
SOAP WORKS,
BLAST FURNACES.



Coils of
Any Desired Length
of
WELDED PIPE.
PIPE BENDING
and
WELDING A SPECIALTY

COLD
DRAWN

FITZSIMONS & CO.
Manufacturers

SHAFTING

CLEVELAND, OHIO.

IRON
STEEL

CHARLES BURGESS,

MANUFACTURER OF ALL GRADES OF

CRUCIBLE TOOL STEEL

Including SELF-HARDENING STEEL for NAILERS', LATHE and PLANER TOOLS.

Warranted Equal to any Brand Made. Extra Quality Cast Steel for Hammers and all special tool purposes.

CYCLOPS STEEL WORKS, Titusville, Pa.

ATLANTIC TRANSPORT LINE,
BETWEEN BALTIMORE AND LONDON
Calling at Swansea and Philadelphia on the outward
passage.
S.S. Minnesota, 5,000 tons. S.S. Missouri, 4,500 tons.
S.S. Maryland, 4,500 tons. S.S. Michigan, (Bldg.)
S.S. Montana, 4,500 tons. S.S. Mississippi, (Bldg.)
S.S. Maine, 4,150 tons.
BALTIMORE STORAGE & LIGHTERAGE CO.
236 La Salle Street, and 10 Fenchurch Street,
Chicago, Ill. and London.
409 Second Street, Baltimore, Md.

THE BAY LINE

Fortress Monroe, Norfolk and the South.

The Bay Line comprises the New and Elegant Steamers
"VIRGINIA," "CAROLINA" and "FLORIDA."

All the Comforts and Luxuries of a First-Class Hotel are
afforded the traveler. Spacious and elegant saloons and
and staterooms, furnished with an especial view to com-
fort. Unsurpassed Cuisine, which is made a specialty
with this Line. Elegant service and courteous attention.
Steamers leave Baltimore daily (except Sundays) at 9 P. M.
At Old Point Comfort is located the "SPLENDID
HYGIEA HOTEL, a Delightful Resort at all seasons of
the Year. For Tickets and information apply at
Company's office.

157 W. BALTIMORE STREET, BALTIMORE.

On or Board of Steamers.

D. J. HILL, Superintendent.

E. BROWN, General Ticket Agent.

THE BRADSTREET Mercantile Agency

WAS ESTABLISHED IN 1849.

Is the oldest and financially the strongest organiza-
tion of its kind, working in one interest and under
one management, with more capital invested in the
business, and expends more money every year for
the collection and dissemination of its information
than any similar institution in the world. Its reports
are considered in the light of a guide by both investors
and those contemplating the granting of credit.
In addition to a large corps of skilled employees,
more than one hundred thousand correspondents
contribute the result of their investigation and
opinions. Subscriptions are annual, and may com-
mence at any time the subscriber elects. Details as
to prices and terms will be furnished upon applica-
tion.

CHARLES F. CLARK, President.

Baltimore Office—American Building.
W. EDWARDS Hunt.

MENGEL'S

PRINTING-
PRESSES,

PAPER-
CUTTERS,

PRINTERS'
MATERIALS.

PRINTING
INKS, &C.

LARGEST TYPE AND ELECTROTYPING FOUNDRY AND PRINT-
ING SUPPLY HOUSE SOUTH OF PHILADELPHIA.

Our Type is now used by The Baltimore Sun, Washington Post,
Critic, Herald, Public Opinion, and nearly all the leading Newspaper
and Book Offices in this vicinity. Send for estimates.

JOHN G. MENGEL & CO.

No. 111 E. GERMAN ST., BALTIMORE, MD.

RYDER & DEARIE

FINE COMMERCIAL PRINTERS.
PHOTO-ENGRAVING IN ALL ITS BRANCHES.
Specialists in fine Machinery and general Wood Engraving,
Engraving, Portraits, Buildings, etc. Artistic designs in Letter
and Bill Heads, Business Cards, Display Lettering for
advertising purposes, etc. Best work. Lowest prices.
Electrotyping at lowest rates. 148 WESTMINSTER
STREET, PROVIDENCE, R. I.

The Shenandoah Valley Illustrated.

The Shenandoah Valley Railroad Com-
pany issue a finely illustrated circular de-
scriptive of the Valley of Virginia, famed
from the days of Spotswood and the Horse-
shoe Knights, and made historic by the
deeds of Jackson, Sheridan and other great
military chieftains of the late war. The
book is a chronicle of a leisurely journey
through the uplands of Virginia, with run-
ning descriptions of the caverns of Luray,
the Natural Bridge and the Grottoes of the
Shenandoah. Hardly a rood of the famed
valley is lacking in historic associations,
and the map accompanying the publication
will guide the visitor to the more famous
spots. Certainly, no more interesting re-
gion worthy of the attention of the tourist
is to be found than the Valley of Virginia.

This company also issues a pamphlet
known as the "Shenandoah Valley," and
treats entirely upon the great natural re-
sources awaiting development in the Shen-
andoah Valley of Virginia.

Copies mailed free upon application to
O. HOWARD ROYER,
Gen'l F. & P. Agt., Roanoke, Va.

THE HIGHEST TYPE

A Complete Vestibule
Limited

On Which No Extra
Charge is Made.

A solid train of Vestibuled Cars—Composite
Car, Day Coach, Dining Car and Pullman Sleep-
ers—heated with steam drawn from the engine
and lighted with electricity, individual reading
lamps being provided for every section in the
drawing room and sleeping cars when desired.

Such a description of the F. F. V. Vestib-
uled Limited, which runs daily between
Cincinnati, Washington, Baltimore, Philadelphia
and New York via the Chesapeake & Ohio route.

A Vestibuled Sleeping Car attached to the F.
F. V. runs between Lexington and
Washington. A Vestibule Sleeping Car also
runs between Cincinnati and Old Point Comfort, through the

Most Picturesque Regions of America.

The train is perfect in every respect; the
sleeping and dining cars are of the most luxuri-
ous pattern; the dining car is equal to that
of any first-class hotel, and the dining car runs through with the train,
not being cut off at a way station. Steam heated;
electric lighted.

The scenery in the canons of New River,
among the barriers of the Alleghenies, and
through the Shenandoah and Piedmont Valleys,
is bold, grand and beautiful, and of infinite
variety. The battlefields of Bull Run, Manassas
and Culpepper add interest to the route.

The F. F. V. is Pullman built throughout. It
is the most complete vestibule train running
between the East and West, and is the only com-
plete Vestibule Train with Through Dining Car
between Cincinnati and New York via the
National Capital.

SEEDS —AND— GRAIN

Mention this paper.

"ANCHOR BRAND"
Our
CHOICE GRADE CLOVER
Re-cleaned and Baled.

W. H. MOREHOUSE & CO.

Wholesale Dealers in

GRAIN, CLOVER, and TIMOTHY,

Hungarian, White Clover, Red Top,
Millet, Alfalfa or Lucerne, Blue Grass,
Orchard Grass, Lawn Grass, POP CORN, &c.

CHOICE CLOVER and TIMOTHY SEEDS
a specialty.

Orders for purchase, or sale of Seeds for future delivery, promptly
attended to. Correspondence solicited.
Warehouses—325 & 327 Erie St. }
Office—46 Produce Exchange } TOLEDO, OHIO.

RICHMOND & DANVILLE R.R. CO. (PIEDMONT AIR-LINE.)

THE SHORT AND DIRECT LINE FROM

Washington, D. C., and Richmond, Va.,

To Atlanta, Augusta, Columbia, Asheville, Raleigh, Greensboro, Salisbury,
Goldboro, Birmingham, Montgomery, Vicksburg, Shreveport, Mobile,
New Orleans, Texas, Mexico and California, and the
South and Southwest.

DOUBLE DAILY, SOLID TRAINS between Washington and Atlanta.
Pullman's Palace Buffet and Drawing-Room Sleeping Cars without change
Atlanta, New Orleans, Augusta, etc.

For maps, time-tables, rates of passage, freight, etc., apply to nearest Station Agent of the Pied-
mont Air Line, or to any Railroad Agent of principal lines North or South.

FEYTON RANDOLPH, General Manager.

SOL. HAAS, Traffic Manager.

JAS. L. TAYLOR, Gen. Pass. Agent.

ART ILLUSTRATIONS
Maps, Plans, Landscapes, Buildings, Portraits, Buildings, Engravings, Lettering, etc.
THE SOUTHERN ENGRAVING CO.
2 W. BALTIMORE ST.
Baltimore, Md.
More durable than electrotype.

PRINTING PRESSES

TYPE AND PRINTERS' MATERIALS
OF EVERY DESCRIPTION.
THE JOHN RYAN CO.
BALTIMORE, MD.



PREMIER FLOUR OF AMERICA.

Patapsco Flouring Mills.

ESTABLISHED 1774.

PERFECTION IN FLOUR.

PATAPSCO SUPERLATIVE PATENT,
THE PREMIER FLOUR OF AMERICA,

IS UNSURPASSED FOR BREAD, BISCUIT OR PASTRY.

ASK YOUR GROCER FOR

PATAPSCO SUPERLATIVE PATENT, PATAPSCO FAMILY PATENT
ROLANDO CHOICE PATENT, ORANGE GROVE EXTRA.

C. A. GAMBRILL MFG. CO.

Office, 214 Commerce Street, Baltimore, Md.

AULT & WILBORG
PRINTING INKS.
CINCINNATI.
A & W INK USED ON THIS PUBLICATION

BRANCH OFFICES,

153 and 154 Monroe Street, Chicago.
6 Gold Street, New York.

THE WASHINGTON HYDRAULIC PRESS BRICK COMPANY,

MANUFACTURERS OF

Ornamental and Plain Front Pressed Brick in Red, Brown, Gray and Buff Colors, also Rock-Faced and Roman Brick.

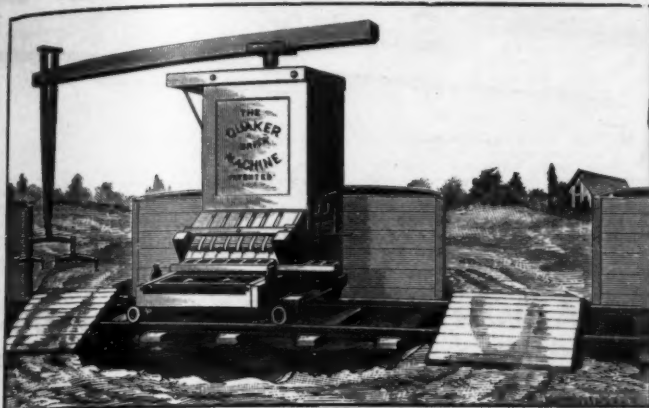
Brick for Arches Ground to any Radius.

Correspondence and Inspection of Works Solicited.

OFFICE: Kellogg Building, Washington, D. C.

Works at Waterloo Va.

Improved Brick Machinery AND BRICK MAKERS' SUPPLIES.



THE NEW QUAKER HORSE-POWER BRICK MACHINE,

Capacity 15,000 to 20,000 per day. Steam-power 25,000 to 40,000 per day.

Special Pug Mills, Mold Sanding Machines, Molds, Barrows, Trucks, &c., &c. We contract to furnish and Equip Complete Yards, Engines, Boilers, Shafting, Pulleys, Belting, &c., &c. Send for Illustrated Catalogue. Correspondence Solicited.

FLETCHER & THOMAS, Indianapolis, Ind.

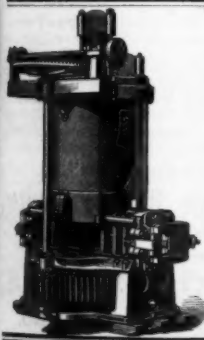
Chambers' Brick Machinery



15,000, 25,000, 50,000 per day Capacity.

GUARANTEED AND FURNISHED ON THIRTY DAYS' TRIAL.

CHAMBERS BROS. CO., Philadelphia, Pa.



Brick Machinery

Capacity 15,000 to 100,000.

Pug Mills, Crushers, Elevators, Etc.

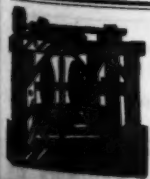
Full Outfits a Specialty. Satisfaction Guaranteed.

ADDRESS

J. W. PENFIELD & SON

WILLOUGHBY, OHIO, U. S. A.

LATEST IMPROVED BRICK MACHINERY
RAYMOND'S PATENTS
DUMPING CARS. RE-PRESSES.
PORTABLE TRACK. IRON CARS.
HOISTING DRUMS. TURN TABLES &c.
SEND FOR CATALOGUE
E. W. Raymond & Co.
Dayton, Ohio.



Brick and Terra Cotta Machinery

Steam Sewer Pipe Presses, Dry Pans for Grinding Clay, Wet Pans for Tempering Clay, Pug Mills and Engines. Complete Outfits.

STEVENSON & CO., Welleville, O.



OHIO BRICK AND TILE MACHINES,

Three sizes, with and without Crusher Rolls.

BUILDING, PAVING AND FIRE BRICK,

CAPACITY:

10,000 to 40,000 DAILY.

Drain Tile, Hollow Building Blocks, &c.

Unequaled.

Write for Catalogue.



E. M. FREESE & CO.

Plymouth, O., U. S. A.



Send for Illustrated Catalogue.

Mention Manufacturers' Record.



Issues Policies of Insurance after Careful Inspection of the Boilers, covering Loss or damage to property, and Loss of Life and Personal Injury

ARISING FROM STEAM BOILER EXPLOSIONS.

Full information concerning the plan of the Company's operations can be obtained at the COMPANY'S OFFICE, Hartford, Conn., or at any Agency.

J. M. ALLEN, President.

J. B. PIERCE, Secretary.

W. B. FRANKLIN, Vice-Prest.

F. B. ALLEN, 2d Vice-Prest.

BOARD OF DIRECTORS:

J. M. ALLEN, President.

FRANK W. CHENEY, Treas. Cheney Bros. Silk Mfg. Co.

CHARLES M. BEACH, of Beach & Co.

DANIEL PHILLIPS, of Adams Express Co.

RICHARD W. H. JARVIS, Pres. Colt's Fire Arms Mfg. Co.

THOMAS O. ENDERS, Pres. of the United States Bank.

LEVERETT BRAINARD, of The Case, Lockwood & Brainard Co.

GEN. WM. B. FRANKLIN, late Vice-Prest. Colt's Patent Fire Arms Mfg. Co.

NEWTON CASE, of The Case, Lockwood & Brainard Co.

NELSON HOLLISTER, of State Bank, Hartford.

HON. HENRY C. ROBINSON, Attorney-at-Law, Hartford.

HON. FRANCIS E. COOLEY, of the Nat. Exchange Bank, Hartford, Conn.

A. W. JILLSON, late Vice-Prest. Phoenix Fire Insurance Co., Hartford, Conn.

EDMUND A. STEDMAN, Treas. of the Fidelity Co., Hartford, Conn.

CLAPP BUCKNER, Bridgeport, Conn.

GEORGE BURRMAN, Baldwin Locomotive Works, Philadelphia.

HON. NATHANIEL SHEPARD, Judge U. S. Circuit Court.

Maryland Department—LAWFORD & McKIM, Gen. Agents 20 S. Ballday St., Baltimore.



Lane's Band Friction Single and Double Cylinder

PORTABLE HOISTS

STANDARD DRUMS,
Winze Hoists, Exploring Hoists,
Wire Rope Haulage Machines,
ORE BUCKETS, SKIPS,
CAGES AND SHEAVES,
STEAM PUMPS, BOILERS, Etc.

PHENIX BUILDING 138 JACKSON ST.

Bullock's Diamond Prospecting Core Drills,

For Surface or Underground Prospecting. No Restrictions as to Use.

THE ONLY RELIABLE DIAMOND DRILL MADE.

Improved Corliss Engine, Slide Valve and Straight Line Engines,

Eclipse Rock Drills, Air Compressors and Quarrying Machines.

WRITE FOR WHAT YOU WANT.

Cable Address, BULLOCK, CHICAGO.



Rock Drilling and Air Compressing

MACHINERY

FOR

TUNNELS, QUARRIES, MINES, RAILROADS,

And wherever Ore and Rock are to be Drilled and Blasted.

RAND DRILL CO.

23 Park Place,

NEW YORK.

SAMUEL WOODHOUSE,

Successors to OHIO CHAIN COMPANY,

MANUFACTURERS OF

Crane, Cable, Dredge
and Crown Proof

Coil Chains, Safety Chains

AND

COAL MINE CHAINS MADE TO ORDER.

Chains of Every Description Made to Fit any Wheel or Machine. First Premium,
Silver Medal, Awarded at Northern Ohio Fairs of 1870, 1872 and 1873.

OFFICE AND WORKS, NEWBURGH, O.

Coal and Ore

WASHERS AND JIGS.

JENKINS & LINGLE.

WASHING and SEPARATING

Machinery.

BELLEfonte, PA.

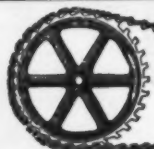
McLANAHAN & STONE, Engineers and Manufacturers,
GAYSPORT FOUNDRY, HOLLIDAYSBURG PA.

Blast Furnace, Rolling Mill and Heavy Castings and Machinery for all purposes.

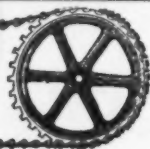
ORE JIGS, IMPROVED ORE WASHERS,

with Revolving Screens and Picking Tables.
Elevators and Conveyors, Etc.

Complete Plants for washing HEMATITE ORES at Least Cost



TRANSMISSION
OF POWER.



Machinery for Handling any Material in Bulk or in Packages.

The Link-Belt Engineering Company,

NEW YORK 49 Dey Street.

Nicetown, PHILADELPHIA, PA.

Successors to BURR & DODGE, PHILADELPHIA

AND

EASTERN BRANCH LINK-BELT MACHINERY CO.

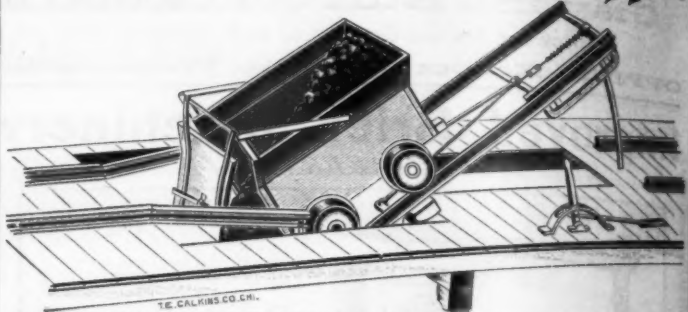
New York.

EWART DETACHABLE LINK-BELTING,

DODGE CABLE CHAIN

ELEVATORS, CONVEYORS, LINK DRIVING BELTS.

THE Mitchell Patent Coal Tipple.



AMONG THE ADVANTAGES of this tippie are largely increased capacity, with reduction of operating expenses. One man has dumped over 2,000 tons of lump coal in ten hours with one of these tippies, without reaching the limit of its capacity. The cars run to and from the tippie by gravity, only one man being needed to do the dumping. Superior cleaning of the coal with minimum breakage. The dumper has complete control of the car when dumping, thus allowing the coal to pass evenly and gradually over the screen and avoiding the heavy fall and consequent breakage of coal caused by the old form of tippie.

This is the only tippie in which the car after being dumped passes on over the tippie out of the way of the loaded car, which does not have to wait for the empty car to be pulled back and switched to one side.

Drawings, Prices and Information Furnished by

DIAMOND PROSPECTING CO.

15 and 17 N. Clinton St.,

Chicago, Ill.

ALSO AGENTS FOR

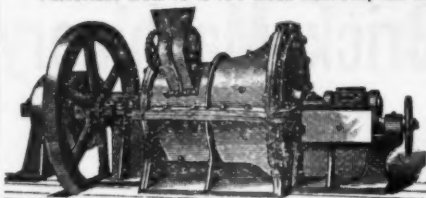
SULLIVAN DIAMOND PROSPECTING DRILLS,

SULLIVAN QUARRYING MACHINERY.

Contractors for DIAMOND DRILL PROSPECTING.

The Greatest Pulverizer in the World.

Pulverizes from 10 to 160 mesh fineness, and has a capacity of 1 to 3 tons per hour.



For pulverizing phosphates, Plaster, Cement, Foundry Facing, Iron Ore, Paints, Gold and Silver Ores, Fine Rock for Glass, Coke for Carbon, Pellets, Asphalt Materials, Feldspar, Red Oxide, Sandstone, Limestone and Calcined Limestone. Correspondence solicited. Send for samples of different products.

F. H. MOORE,

Manufacturer,

48 City Hall Bldg., Cleveland, O.

GATES ROCK AND ORE BREAKER.



CAPACITY IN TONS OF 2,000 POUNDS.

Size 9-12 to 4 tons per hour.	Size 4-12 to 20 tons per hour.
" 4-12 to 8 "	" 8-12 to 10 "
" 8-12 to 12 "	" 12-12 to 15 "
" 12-12 to 20 "	" 20-12 to 25 "
" 20-12 to 30 "	" 30-12 to 35 "
" 30-12 to 40 "	" 40-12 to 45 "

Passing 21-2 in. ring, according to character and hardness of material.

Great SAVING IN POWER. Adjustable to any Degree of Fineness.

The principle involved in this Breaker acknowledged to be the greatest success ever introduced into Stonebreaking Machinery. The Gates Breaker has made more railroad ballast and road metal than all other kinds of breakers combined.

Universally Adopted by Mining Companies.

Many Hundreds Used by Railway Companies.

Will furnish a thousand references from Contractors, Street Superintendents, Mines, Cement Manufacturers, etc., etc.

ALSO MANUFACTURE

The Cornish Rolls Pulverizer.

Fine Crushing Plants, Concentrators and other Mining Machinery.

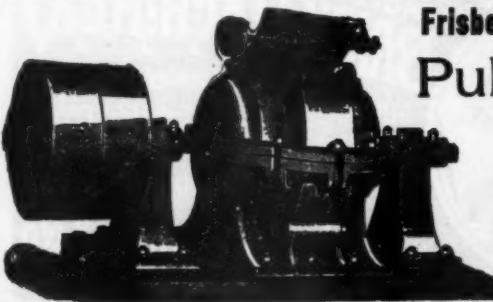
Address for Catalogue,

GATES IRON WORKS,

73a Queen Victoria Street, LONDON.
44 Dey Street, NEW YORK.

50 H South Clinton St., CHICAGO.

215 Franklin Street, Boston, Mass.



Frisbee Lucop Mills for Pulverizing.

At half the cost of that by Burr Stones. Used by leading Cement and Fertilizer Manufacturers. Finest Product. No Tailings. Capacity up to 3 tons per hour. Exact of constant use for 6 years.

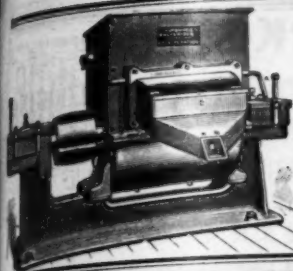
FRISBEE LUCOP MILL CO.

145 Broadway, New York.

DAVIDS' PATENT DISINTEGRATING MILL

For Bones, Phosphates, Tankage, Ores, Clay, Fish Scrap, Salt Cake, etc. Fertilizer Machinery, Mixers' Rolls, Breakers, &c., &c. Marine Railways, Clay Temperers. Send for Catalogue.

JAMES MURRAY & SON, 102 to 108 York Street, Baltimore, Md.



The Raymond Bros. Impact Pulverizer Co.

303-311 SOUTH CANAL STREET, CHICAGO, ILL.

NEW SYSTEM OF PULVERIZING PLANTS

FOR REDUCING IRON, PHOSPHATES, CLAYS, ETC. (either hard, soft or fibrous materials), to any degree of fineness. Great saving in cost of plant. Greater capacity. Smaller power and little wear and tear. Estimates and plans furnished for complete plants.

PHOSPHATE, PAINT AND CLAY PLANTS OUR SPECIALTY.

SEND FOR CIRCULARS.

CORRESPONDENCE SOLICITED.

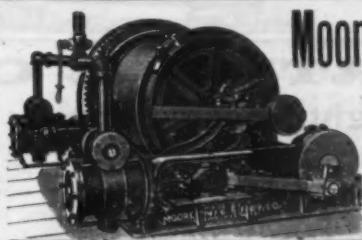
THE HARRINGTON & KING

MANUFACTURERS OF PERFORATED METALS FOR

SUGAR HOUSES, DISTILLERIES, PHOSPHATES AND FERTILIZING WORKS.

COTTON SEED, OIL MILLS, RICE MILLS, FLOUR AND WATER WORKS, PAPER, WOODEN, PLATES AND CYLINDERS FOR SCREENING, REVOLVING SCREENS, PUMPS, MINING GRIZZLIES FOR ALL KINDS OF MINING, STAMP BATTERY, SCREENS OF ALL KINDS AND SIZES, MINING TO WORK FOR RAILROADS, AND CAR BUILDERS, PERFORATED TIN, BRASS, OF ALL SIZES.

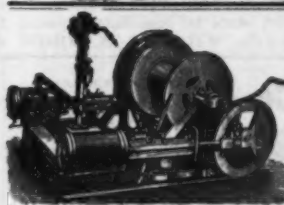
MAIN OFFICE AND WORKS
224 & 226 NORTH UNION ST. CHICAGO, ILL. U.S.A.
EASTERN OFFICE, No. 284 PEARL STREET, Cor. Beckman, NEW YORK.



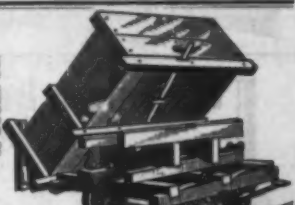
Moore Mfg. & Foundry Co.

MILWAUKEE, WIS.

Paper Friction Hoisting Engines and Drums,
Coal and Ore Handling Machinery,
Builders' Hardware, Etc., Etc. *Send for Catalogue.*



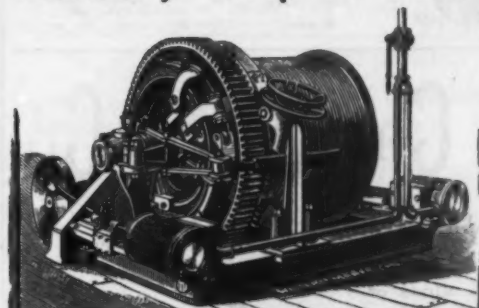
Manufactured by **RYAN-McDONALD MFG. CO.**
Shops and Warehouses, WATERLOO, N. Y.
Send for Illustrated Catalogue and Prices.



All correspondence should be addressed to Waterloo office.

Webster, Camp & Lane Machine Co.

BAND FRICTION HOISTS.



Endless and Tail Rope Haulage Engines for
COAL MINES.
Automatic and Slide Valve Steam Engines, Boilers, Pumping Plants, Cages, Ore Cars, Sheaves, etc.

AKRON, O.

H. W. CALDWELL & SON,

127 to 133 W. Washington Street,

CHICAGO, ILL.

General Machinists,

ELEVATING, CONVEYING AND POWER TRANSMISSION MACHINERY.



- Caldwell Conveyor,
- Link Belting,
- Sprocket Wheels,
- Cotton Belting,
- Rubber Belting,
- Leather Belting,
- Belt Clamps,
- Elevator Boots,
- Elevator Bolts,
- Elevator Buckets,
- Concrete Mixers,
- Friction Clutches,
- Jaw Clutches,
- Couplings,



CALDWELL-AVERY CORRUGATED.



AVERY PLAIN.



CALDWELL CORRUGATED.

- Flexible Spouts,
- Ge: ring (all kinds),
- Grain Scoops,
- Power Grain Shovels,
- Grinding Mills,
- Hangers,
- Perforated Metal,
- Pillow Blocks,
- Iron Pulleys,
- Wood Pulleys,
- Shafting,
- Set Collars,
- Swivel Spouts,
- Take-Up Boxes,
- Turn Head Spouts,
- Wire Cloth.

BACON

Winding Engines, Furnace Hoists, Mine Hoists.

(WITH OR WITHOUT BOILERS.)

"MINING PLANTS," CONCENTRATING WORKS, AND DREDGING MACHINERY FURNISHED COMPLETE.

COPELAND & BACON,

85 Liberty St., New York.
535 Arch Street, Philadelphia.

REFERENCES: Croton Magnetic Iron Mines, Brewsters N. Y.
Croton Point Iron Co., Crown Point, N. Y.
Belvidere Iron Co., 52 Broadway, N. Y.
Sea Island Chemical Co., Beaufort S. C.



THE Wardwell Stone Channeling AND Quarrying Machine.

WILL pay for itself in a short time in reduced cost of getting out Stone. Has no equal for efficiency and economy of operation. Pronounced by those who have used it the best machine for the purpose in the world. Send for illustrated catalogue, with full descriptions and letters from parties now using the machines.

Steam Stone Cutter Co.

RUTLAND, VERMONT.



Lincoln Iron Works. Machinery

RUTLAND, VT. For working Marble, Stone and Wood Shafting, Pulleys and Gearing. Send for Catalogue.

WE CARRY LARGE STOCKS FOR IMMEDIATE SHIPMENT.

Established 1831.

BALDWIN LOCOMOTIVE WORKS.

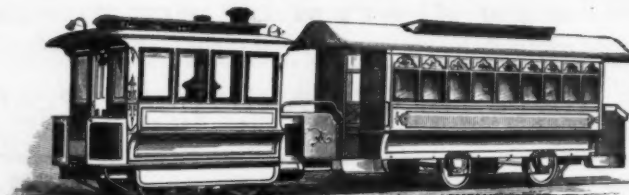
Annual Capacity 1000.

LOCOMOTIVE ENGINES,

Adapted to every variety of service, and built accurately to standard gauges and templates.

Steam Tramway Motors.

Mine Locomotives, Furnace Locomotives.

**LOCOMOTIVES FOR LOGGING**
Railroads and Sugar Estates.**Burnham, Parry, Williams & Co.**
PROPRIETORS,

500 N. Broad Street, Philadelphia, Pa.

In writing, please refer to Manufacturers' Record.

H. K. PORTER & CO., PITTSBURGH, PA., U. S. A.**Light Locomotives and Noiseless Motors**

All gauges of track for Passenger and Freight Service, Logging Railroads, Mines, Blast Furnaces, Steel Works, Coke Ovens, Contractors' Work and Plantations.

Photographs and illustrated catalogue on application. In writing mention MANUFACTURERS' RECORD.

Memo.—All work STEEL FITTED and built to duplicate system. Extra parts kept in stock. We keep on hand, ready for immediate shipment, LOCOMOTIVES AND MOTORS OF SEVERAL SIZES, WIDE OR NARROW GAUGE.

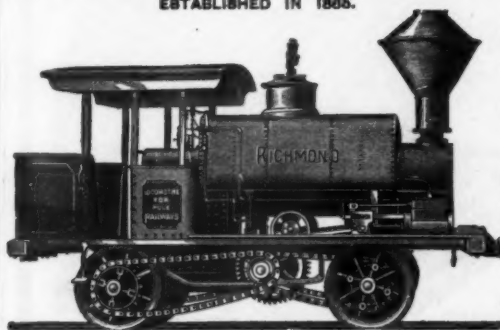
All sizes and patterns, adapted to steep grades and sharp curves. Noiseless and smokeless. Cheaper and more reliable and efficient, and less objectionable than electric or cable system.



The Vulcan Iron Works Co.
TOLEDO, O.

MANUFACTURERS OF
Dredges and Excavators,
MARINE, HOISTING and
STATIONARY ENGINES,
Foundry, Rolling Mill and
Dock Cranes.
A general line of Plain and Ornamental Boiler Fronts and Fittings and General Foundries.
The "Little Giant" Excavator
WEIGHT 30 TONS.
Capacity 1,500 cub. yds. per day
The "GIANT" RAILROAD EXCAVATOR.
WEIGHT 40 TONS.
Capacity 2,000 cub. yds. per day

Write for Descriptive Matter.

Richmond Locomotive & Machine Works, Richmond, Va.
ESTABLISHED IN 1865.**LOCOMOTIVES**
for every variety of service to Standard Designs or to special views of purchasers.**MOTORS**
for Street Railways, Traction Roads and Mines.**Stationary Engines**
for heavy duty.**BOILERS,**
Standard or Special.
Send for Catalogue, Specifications and Estimates.**Knoxville Car Wheel Co**

KNOXVILLE, TENN.

Manufacturers of all kinds of

CHILLED WHEELS

For Railroads, Street Railroads, Ore and Coal Mines and Lumbermen.

Steam Hammers,
Foundry Cupolas,
Derricks, Crabs,
Horse-Powers,
Shieves, Drill Heads,
Gearing, Puileys.
Locomotives and Engines
Repaired and Indicated.

CORRESPONDENCE SOLICITED.

Guild's Automatic
Boiler Cleaner,
Car and Locomotive Castings
Soft Iron Castings of all kinds.
Heavy Castings a specialty.
Wheels mounted on Axles if desired, with Oil Boxes and Bolts.

MENTION THIS PAPER.

STEEL CASTINGS

From 1-4 to 15,000 lbs. Weight.

True to pattern, sound, solid, free from blow-holes, and of unequalled strength. Stronger and more durable than iron forgings in any position or for any service whatever. 60,000 CRANK SHAFTS and 50,000 GEAR WHEELS of this steel now running prove this. CRANK SHAFTS and GEARING specialties. STEEL CASTINGS of every description. Send for circulars and prices.

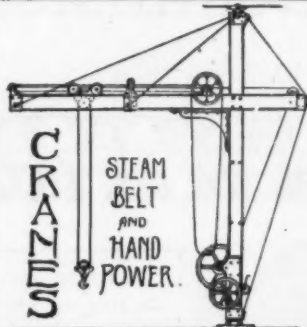
CHESTER STEEL CASTINGS CO.

Office, 407 Liberty St., Philadelphia.

Works, Chester, Pa.

STEEL RAILS**PENNSYLVANIA**Standard Sections
Light Sections
Street RailsFish Plates,
Frogs, Switches**STEPHEN W. BALDWIN**
SALES AGENT**STEEL COMPANY**50 to 80 lbs. per yard
16 " 45 " " "
30 " 88 " " "Bolts & Nuts,
and Crossings.**NO. 2 WALL STREET**
NEW YORK, N.Y.

16 lbs. Full Size.



CRANES

STEAM
BELT
AND
HAND
POWER.**Detroit Foundry Equipment Co.**
DETROIT, MICH.— MANUFACTURERS OF —
WHITING'S IMPROVED
Car Wheel Foundry Plant.The Whiting Cupola Foundry Ladles and Reservoirs, Elevators, Clay Grinders, Wheel Breakers, Tumblers, Snap Flasks, Wheelbarrows, &c.
Correspondence Solicited.**MINER & PECK M'F'G CO.**
SUCCESSORS TO BEECHER & PECK
THE PECK PATENT DROP PRESS
DROP FORGINGS BLAST FORGES
NEW HAVEN, CONN.**BRADLEY AND FORCES**
BEST HAMMERS IN THE WORLD RUN BY BELTOVER 1500 IN USE.
Three Styles, 15 lb. to 500 lb. Heads.
Our FORCES heat irons fast enough to keep Hammer Men fully employed. Send for Catalogue and Prices.
BRADLEY & CO., SYRACUSE, N. Y.
14 WARREN ST. NEW YORK. 96 & 98 SUDBURY ST. BOSTON.

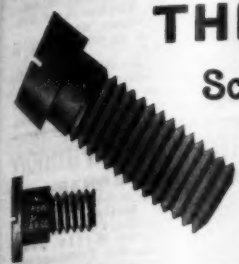
THE CINCINNATI SCREW & TAP CO.

MANUFACTURERS OF

Screws, Special Taps,
Dies, Reamers,
Coal Hods, &c.

CINCINNATI, OHIO, U. S. A.

Iron and Steel Set Screws; Hexagon, Square,
Round and Filister Head Cap Screws;
Milled Machine Screws; Studs, Blank,
Semi-Finished and Finished and
Case-Hardened Hexagon Nuts,
and all kinds of Turned and
Stamped Work out of Bar and
Sheet Iron, Steel or Brass.



RIVETS

HOOPES & TOWNSEND,

PHILADELPHIA, AND

The HOOPES & TOWNSEND CO.

WILMINGTON, DEL.

Cone, Button, Flat, Rose, Counter-Sunk, Button Counter-Sunk and Steeple Heads.

BOILER,

BRIDGE,

SHIP,

TANK,

CAR,

STACK,

COOPER

RIVETS

GENUINE
TRADE MARKS



PHOSPHOR-BRONZE

INGOTS, CASTINGS & MANUFACTURES.

THE PHOSPHOR BRONZE SMELTING CO. LIMITED

512 ARCH ST. PHILADELPHIA PA. U.S.A.

ORIGINAL MANUFACTURERS OF PHOSPHOR-BRONZE IN THE UNITED STATES AND OWNERS OF THE U.S. PATENTS

WILLIAMSPORT WIRE ROPE CO.

MANUFACTURERS OF

Iron, Steel and Galvanized

WIRE ROPE

STREET CABLES A SPECIALTY.

WILLIAMSPORT, PA.

Correspondence Solicited with Southern Coal and Quarry Companies.

Build AND Repair Your Machinery

BY USING

Engine Lathes, Planers,

Chuckling Lathes, Hand Lathes,

MACHINE TOOLS GENERALLY

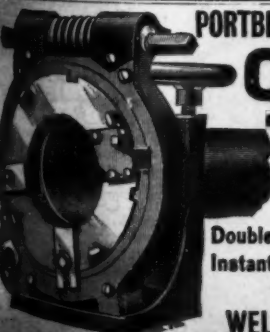
MANUFACTURED BY

LATHE & MORSETOOL CO.

Worcester, Mass., U. S. A.



Established 1845.

T. K. Carey & Bros.
Southern Agents,
BALTIMORE, MD.

PORTBLE, HAND OR BELT **PIPE**
CUTTING & THREADING
MACHINE.

Double Application of Power. Double Leader Screw
Instantly Changeable, range from 1 to 6 in. Pipe.

Write for Description and Prices

WELLS MACHINE WORKS, FOSTORIA, O.

Improved Screw Cutting
FOOT and POWER

LATHES

Drill Presses, Shapers, Band, Circular and Scroll
Saws, Machinists' Tools and Supplies. Lathes
on trial. Catalogue mailed on application.

THE SEBASTIAN-MAY CO.
182-188 Highland Ave., Sidney, Ohio.



WORKSHOPS

WITHOUT STEAM POWER

SHOULD HAVE

BARNES'
Patent Foot Power Machinery. Over 20 years
Outside for actual workshop business.
With them Builders, Cabinet
Makers, Metal and Wood Work-
ers compete with steam power.
Machines on trial if desired.
Proof of value, prices, full
detail, illustr'd catalogue, free.
W.F. & John Barnes Co.,
Frankford, Ill.
Address No. 221 North 4th

T. K. CAREY & BROS., 36 Light
St. Baltimore Agents



Barnes' Pat. Upright Drills

30-inch Swing, with both
Worm and Lever Feed.

Barnes' Pat. Engine Lathe
16 inch swing, 6-foot or 8-foot bed.
These machines are made a specialty
in our factory, they have advantages
not found in other machines in this
line. It will pay parties desiring to
purchase, or know more about this
class of machines, to send for full
descriptive list and price.
W. F. & JOHN BARNES CO.
221 North 4th, Frankford, Ill.



THE ADJUSTABLE
"Duplex" Die Stock

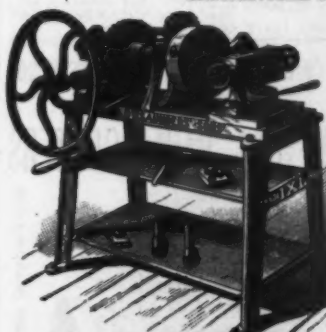
Quick. Accurate. Durable.
15,000 now in Use.

HART MANUFACTURING CO.
CLEVELAND, O.



D. SAUNDERS' SONS,

MANUFACTURERS OF THE ORIGINAL



TRADE **I.X.L.** MARK.

Pipe Cutting and
Threading Machine.

BEWARE OF IMITATIONS.
None genuine without our Trade
Mark and name. Also

Patent Wheel Pipe Cutter
STEAM AND GAS FITTERS'
HAND TOOLS.

Pipe Cutting and Threading Machine
FOR PIPE MILL USE A SPECIALTY.

Send for Catalogue B.

31 Atherton St., Yonkers, N. Y.



THE EXCLUSIVE USE OF THIS FENCE FOR ADVERTISING PURPOSES HAS BEEN
SOLD TO PANCOAST & MAULE, PHILADELPHIA, PA.
ANY ONE CAUGHT DEFACING THIS SIGN WILL BE PROSECUTED

FOR SALE ON THE PREMISES DAILY
UNTIL FURTHER NOTICE.

The "American" Union.

A fitting which requires no packing to make a
permanent joint.

The "American" Longscrew.

which possesses similar advantages to the AMERI-
CAN UNION.

Malleable Iron and Polished Brass

Fittings of all kinds, for building Pipe Railings,
also Awning Frame Fittings.

Ornamental Pipe Coil Fittings.

for constructing Ornamental Heating Coils
of 1 and 1 1/2 inch Wrought Iron Pipe.

"Eclipse" Pipe-Cutting Machines.

built in six different sizes for use by hand or power.

Improved Steam Glue Heaters.

Made in nineteen sizes, with copper, plain, or
enameled iron pots.

For Price Lists of any of the above, please
address,

PANCOAST & MAULE,
PHILADELPHIA, PA.

OUR CATALOGUE "A"

Contains upwards of 500 Cuts, and will
be found of service to Pipe Fitters,
Engineers, Superintendents
of Railroads, Mills, Factories,
Water, Ice, Oil, and Gas Com-
panies, and all who are interested in
the use of Steam, Water, and Gas, and
is an exhaustive book of reference for
the selection of such goods.

In writing us for Catalogue, please
send your business card or other evi-
dence that you have actual use for such
a book. We make this request for the
reason that we constantly receive appli-
cations from parties who have no use
for goods in our line, but who simply
write for Catalogue from the desire
to get "something" for nothing.

PANCOAST & MAULE,
243-245 South Third Street,
PHILADELPHIA.

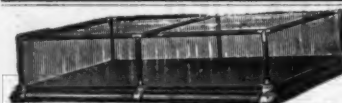
Stuebner & Woods

MANUFACTURERS OF

**Self-Dumping Steel & Iron
Hoisting Tubs,**Side and Bottom Dumping
Cars for Coal Elevators,
Iron Wheelbarrows, Hoisting
Blocks, Bottom-dumping Tubs
for Coaling Locomotives, &c.

LONG ISLAND CITY, N. Y.

Send for circular and price-list.

**FINE SHOW CASES.**

TERRY MFG CO., NASHVILLE, TENN.

**THE SCIENTIFIC
GRINDING MILL**

The BEST MILL ON EARTH
SAFETY BOTTOM and
PIN BREAKER to pre-
vent accidents. Revers-
ible. Self-Sharpening
GRINDING PLATES.
Saves 25 to 50 per cent.
Grinding Feed. Sent on trial
with all others. Fully Guar-
anteed. Send for illust'd catalogue of this and our
NEW SWEEP MILL for two
Horses
THE EDGE MFG. CO., SPRINGFIELD, O.

DRILLING MACHINES,

For catalogues and prices address

Blickford Drill Co.

170 TO 180

E. FRONT STREET,
CINCINNATI, O.**ROLLER and
Detachable Chain Belting,**Detachable in Every Link,
FOR IMPROVED**ELEVATORS,
CONVEYERS,**AND
Driving BeltsFOR HANDLING
Coal, Ores, Grain,
CLAY, BRICK, &c.ADDRESS
The Jeffrey Mfg. Co.

121 W. State St., Columbus, O.

Stow Flexible Shaft Co., Limited,Twenty-Sixth, Callowhill and
Biddle Sts., PHILA., PA.

Manufacturers of

FLEXIBLE SHAFTS,And all kinds of Machines to be used
with them. Portable Drilling, Tapping,
reaming and Boring Machines. Also
Portable Tools for Emery Wheel
Grinding, Metal and Wood Polishing,
Cattle Scrubbing and Clipping, &c.Builders of
Special Machines
for Railroads,
Bridge & Bol-
maker, Con-
tractors, &c.**POWELL & LOCKWOOD,
General Dairy Supply House,**

112 Chambers St., New York City.

Every Requisite for Milk, Butter and
Cheese Industries.
Write for Catalogue.**DAIRY MACHINERY**

Complete Outfits a Specialty.

H. McK. WILSON & CO.

ST. LOUIS, MO.

Handsome Dairy Illustrated Catalogue mailed
free on application.**WHICH? BUTTER OR
CHEESE.**

If either, or both, send for
J. S. CARTER'S Illustrated
Catalogue, which gives full in-
formation of latest and best method
and appliances for making Cheese
or Butter, from the largest fac-
tory to the smallest dairy.
Carter's Cream & Buttering
System of Butter Making is a success.
JOHN S. CARTER, Syracuse, N. Y.

R. M. JOHNSON,Manufacturers' Agent and Dealer in Corliss
Automatic Cut-Off and Plain Slide Valve**Steam Engines and Boilers,**Saw Mills, Machinists' Tools, Wood-Working
Machines, Mining, Brick, Ice, Grist Mill, Dairy
Canning and Electric-Lighting Machinery &
Specialty; also Double Cylinder Traction En-
gines. Complete outfits supplied at lowest prices
Correspondence is solicited.**R. M. JOHNSON, Waynesboro, Va.**

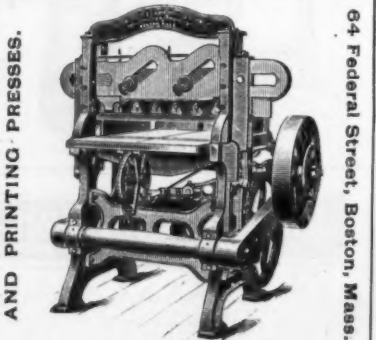
**THE CHAMBERLIN
Screw Stump Machine.**
The only Stump Machine in
the world that successfully
pulls all classes and sizes of
stumps. Write for catalogue
and price list.
MANUFACTURED BY THE
CHAMBERLIN MFG. CO.
CLEAN, N. Y.

The Motor of the 19th Century.

2 to 40 H. P.
Can be used ANY PLACE,
to do ANY WORK, and by
ANY ONE.
No Boiler! No Fire! No
Steam! No Ashes! No
Gauges! No Engineer! No
Danger! No Smoke!
A perfectly safe motor for all
places and purposes. Cost of
operation about one cent an
hour to each indicated horse-
power. For circulars, etc.,
address **CHARTER GAS
ENGINE CO., P. O. Box 240, Sterling, Ill.**

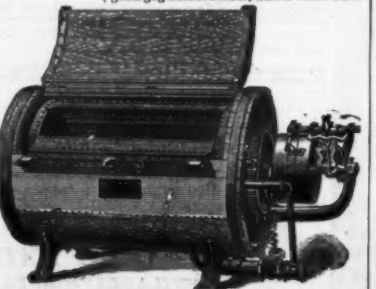
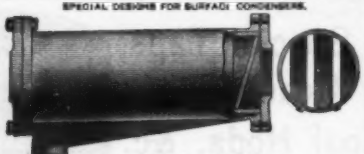
THE CHILD ACME CUTTER & PRESS CO.

MANUFACTURERS OF THE

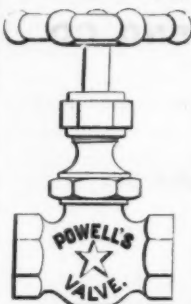
**ACME SELF-
CLAMPING PAPER CUTTERS****Troy Laundry Machinery Co.**

(LIMITED.)

FACTORIES: 648 and 650 Fulton Street, Troy.
395 to 401 Fifth Avenue, Chicago.
SALESROOMS: 15 Warren Street, New York.
531 & 533 Mission St., San Francisco.

Our line of Machinery is guaranteed
to be the best for laundering all kinds
of goods. Send for special catalogue R.**Barnard's Separator**For Separating and Removing Entrained
Water from Live Steam;
AND
Condense Water, Oil, Dirt, Etc., from Exhaust Steam.

Send for Circular and Prices.

GEO. A. BARNARD,
15 Cortlandt St., New York.**Powell's Star Valve**Still the Favorite for
all First-Class Work.We Test Them.
We Warrant Them.You will find them
perfectly reliable.Kept in stock by
Thos. G. Bassor & Co.
BALTIMORE, MD.THE
WM POWELL CO.
Cincinnati, O.
MANUFACTURERS.**HARRY MYERS MFG. CO.,****ELECTRICIANS,
WOOD & METAL WORKERS**Engineering Instruments, Models, Patterns,
Brass Work, Nickel Plating, Japanning, etc.
Correspondence solicited.
NASHVILLE, TENN.

**DO YOU
BELIEVE
IN SIGNS**

JORY & CO.
Make Everything in
SIGNS
Baltimore & Light Sts.
BALTIMORE.



**JONES SCALES
"THE CHEAPEST,
THE BEST."**
FOR FREE CATALOGUE
ADDRESS
JONES OF BINGHAMTON, Binghamton, N. Y.

TAPER-SLEEVE PULLEY WORKS

211 W. 12TH ST.
BRIDGEMAN, PA.
Manufacturers of
Taper-Sleeve Wood
Belt Pulleys, Adjust-
able Dead Pulleys,
Friction Clutch Pul-
leys, Friction Clutch

Couplings, Wood
Pulleys in Halves,
Taper-Sleeve and
Compression Cou-
plings, Shafting, Post
and Drop Hangers.
Correspondence so-
licited.
BRIDGEMAN, PA.

SHEPARD'S New \$800 SCREW-DRAWING FOOT LATHE
Foot and Power Lathe, Bell
Presses, Scroll Saw Attachment,
Chucks, Mandrels, Twist Drills,
Dogs, Calipers, etc.
Lathe on trial. Lathe on
payment.
Send for catalogue of Outfit
for Amateurs or Artisans.
Address **H. L. SHEPARD, Agent,**
134 E. 2d Street, Cincinnati, Ohio.

McShane & Bell Foundry

Fine Iron and Brass Castings Made to Order.
Manufacture these cele-
brated Bells for Tower
Clocks, Count-Houses,
Cotton Mills, Fac-
tories, etc. Prices and cat-
alogues sent free. Address
H. McSHANE & CO.
Baltimore, Md.

**HARTMAN'S PATENT INSIDE
SLIDING WINDOW BLIND**
Is the most popular Blind in America.
Architects and builders prefer it to any other
for merit, style, convenience and economy.
Not complicated. The only blind
that is furnished with an automatic
lock. It is a perfect fireproof
item of immense magnitude, and may be
used many times the cost of blind and yet
have life also, and the only blind that gives
entire satisfaction. Thousands in use
everywhere. Agents wanted everywhere. Send for
illustrated catalogue and prices. Manufactured by
HARTMAN & DURSTINE.

**WILLER'S
SLIDING BLINDS**

SUPERIOR TO ALL OTHERS.
Agents Wanted
Everywhere
AWARDED
THE HIGHEST PRIZE
AT THE
CINCINNATI
CENTENNIAL
EXPOSITION.
USED BY
LEADING
ARCHITECTS
AND BUILDERS
IN ALL
CITIES
OF THE
UNITED STATES
AND
FOREIGN COUNTRIES.
WILLIAM WILLER
SOLE MANUFACTURER—FOURTH & CEDAR STS.
MILWAUKEE, WIS.

**"IDEAL"
WROUGHT IRON FENCE.**Engines, Boilers, Shafting,
Pulleys, Hangers, &c.
F. M. ARTHUR & CO., Knoxville, Tenn.**IRON RAILINGS**

FOR
Bridges, Parks, Residences.
**IRON DOORS AND SHUTTERS,
BUILDERS' IRON WORK.**
BELMONT IRON WORKS, LIMITED.
Successors to
Manly & Cooper Mfg. Co. **PHILADELPHIA, PA.**

WIRE RAILING

and Ornamental Wire Works.
OUFUR & CO. 311 N. HOWARD ST., BALTIMORE.
Wire Railing for Cemeteries, Lawns, Gardens, Of-
fices and Balconies; Window Guards, Tree Guards,
Wire Cloth, Sieves, Fenders, Caps, and all Gal-
vanized Iron Wire Goods. Catalogue free.

WIRE & WIRE GOODS.

Wire Cloth, Rope, SCREENS for
Coal and Ores. Barbed and
Plain Fencing Wire. Rail
and Office Railings.
**LUDLOW
SAYRE
WIRE CO.**
Artistic Work a Specialty.
Send for catalogue and mention this paper.

Read What a Michigan Miller Says of the Case Company.

STURGIS ROLLER MILLS,
BAUER & BUHRER, Proprietors.

THE CASE MANUFACTURING CO., Columbus, Ohio.

STURGIS, MICH., July 12, 1890.

GENTS—We started mill July 7th. The 12 pair 9x18 rolls you furnished us worked perfectly. They are so easy to adjust, so simple to handle, feed so regularly, grind so nicely and even and work so smoothly on the whole, that we have no hesitancy in stating that we cannot see how they can have a superior, if equal. Aside from their perfect work, they are models of beauty and finish, and a decided ornament to any mill. We enclose clippings from papers. We are, with best wishes,
Very truly yours,
BAUER & BUHRER.

For full particulars regarding the BEST FLOUR OR CORN MILL MACHINERY, address

The Case
Manufacturing
Company,
Columbus, Ohio.

Perfection Meat Cutter.

The full and sectional illustrations of the "Perfection" meat cutter shown herewith are correct cuts of a new and simple machine, specially adapted for family use in the preparation of raw and cooked meats

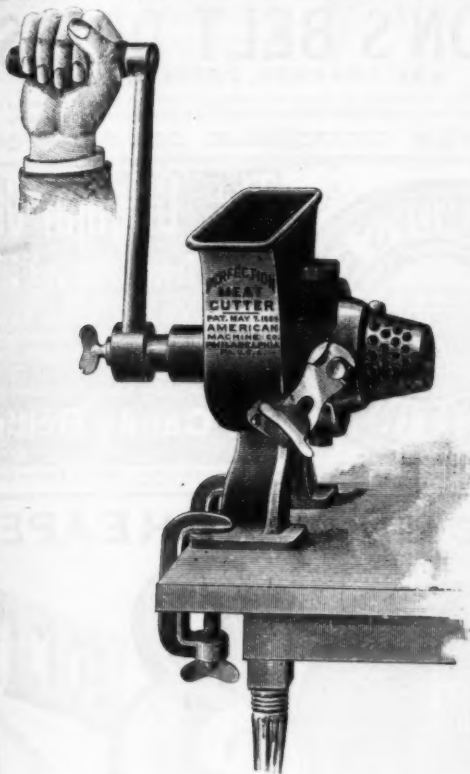


FIG. 1.

for the table, as well as in preparing fruits, nuts, coconuts, etc., for cakes and pies, and in many other ways aiding in the preparation of a large variety of palatable dishes, using up a large amount of food that would otherwise go to waste, and in



FIG. 2.

many instances aiding in the production of a menu, which, without the aid of such a machine, could not, except by the expenditure of considerable time and labor, be obtained. The cutter is also adapted for many special uses by butchers and farmers.

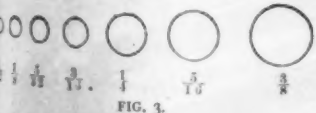


FIG. 3.

The cutter is compact, strong and simple in construction, the entire machine being composed of but seven pieces, as shown and named in illustration, and of a pair of clamps for fastening it to the table; or, the cutter can be made stationary by screwing

it fast wherever desired, doing away with the use of the clamps.

The cutting screw is first inserted in the frame or hopper, the crank is then made fast to the same by tightening the crank screw, the cone is then placed in position over the cutting screw, the grooves shown

on outside of cone engaging with the pins in the frame. The cone is now pressed down tightly to the screw, and the catch is brought forward and placed in position over the pin of the cone and made fast by the catch screw, when it will be found that the crank will stay at any angle to which it is turned, and the cutter is ready for use. The meat or other matter on being dropped into the hopper is at once taken by the screw and forced forward to the cone, where it comes in contact with the stationary oblique knives in the same (see illustrations of cutting screw and cone) and the sharp edges of the revolving screw, and is cut the same as though it were passed between the blades of a pair of scissors; it is reduced to uniform size by passing through the holes in the cone, the size of the holes varying from 1-12 to 3/4 of an inch in diameter, as shown by the illustration. The one regularly supplied with the cutter has 5 32 of an inch holes, but any of the other sizes can also be had.

The cutter is worthy of comment, in that it is simple in construction, easily put together and taken apart, three or four movements sufficing for either operation; is rapid, requiring but little force to operate, and, it is asserted, leaves all the life in the meat, even though the same may be passed through the cutter several time. No perceptible change will take place except that the meat becomes finer with each operation.

The "Perfection" cutter is made in sizes number one, two and three, and cutting one, two and three pounds per minute, and these are listed at \$2.00, \$2.75 and \$4.00 each respectively.

A recipe book, written by Mrs. S. T.

Rorer, the principal of the Philadelphia Cooking School, and giving full directions for preparing some 60 dishes, both plain and fancy, with the aid of the cutter, is furnished with each machine.

The cutter is the invention of the American Machine Co., Philadelphia, Pa., U. S. A., and is patented both in the United States and abroad. Hardware merchants and others should find a ready sale for such a cutter, the prices at which it is offered placing it within the reach of all.

Rapid Roller Copier.

The almost general custom of preserving copies of communications sent out from an office created a demand for suitable apparatus for neatly and quickly obtaining such copies. To supply this want many devices

instantaneously by merely turning a crank, and duplicate copies of letters obtained instantaneously when required.

The copies are made on a continuous web of paper, which can be cut off by a device attached to the machine in any desired size and filed away the same as letters received. The rapid roller copier, in use with the Shannon letter filing cabinet, supplies a good system of filing together letters and copies of the answers. With this system it is possible to file away the letters and copies of the answers together, and affords a rapid reference to any one's correspondence. Filing letters and copies of answers together not only does away with the system of copying and indexing letters in the copying book, but also with referring back and forth to the index and the different pages of the index in the copy-



THE RAPID ROLLER COPIER.

possessing considerable merit have been placed on the market. The illustration on this page shows the rapid roller copier, a machine, by reason of its peculiar points and the many improvements that have been added since it was first brought to the notice of the public, appears to be perfect. Its advantages are stated as the avoidance of delays, perfect and uniform copies made

book looking up correspondence.

Further information can be had by sending to the manufacturers, the Office Specialty Manufacturing Co., 284 286 Wabash avenue, Chicago, Ill.

If you wish to keep posted on the progress of the South, read the MANUFACTURERS' RECORD. Price \$4.00 a year.

The Markets.

OFFICE MANUFACTURERS' RECORD,
BALTIMORE, December 17, 1890.

The recent iron trade statistics indicate that there is at least no falling off in production. Two leading authorities give the weekly capacity of about 181,452 tons per week, which is a slight increase over the production recorded a month previous. So far as our information goes, there has been but little increase in stocks. In fact, it may be safely said that, considering the consumption now going on and the consumptive demand that is likely to take place, there is really no accumulation of stocks anywhere. Advices from several Southern points of very recent date go to strengthen confidence in the pig iron situation. A good deal of Southern iron is being offered in Southern and Northern markets, but this is in pursuance of a policy to keep offering material wherever new purchasers are likely to be found. In Western and Northwestern markets a good feeling prevails, and buyers are purchasing to cover all contract work in hand, but no more. Northern tidewater quotations are No. 1, \$18.00; No. 2, \$17.00; gray forge, \$15.00, with 50 cents to \$1.00 less, according to quality. A good deal of charcoal iron is selling also, but Bessemer continues dull in the open market. Muck bars are also weak, but muck bar mills are all running full time. Heavy transactions have taken place at Pittsburgh in nails, slabs and billets. At Wheeling billets are \$28.50; Philadelphia markets, \$29.50 in small lots. Very low figures have been accepted on the large sales referred to. Steel rails are quoted at \$28 to \$29. Several meetings have been recently held by rail-makers, the exact purport of which has not transpired. The usual rumors are rife concerning the probability of large sales at an early day. Rail-mill managers, in anticipation of a better business during the coming year than this, have been endeavoring to harmonize conflicting interests, and it is said they would like to make the minimum price for steel rails \$30. They are in a better shape for such a movement than they have been for years. The anticipation is indulged in that the meeting of railway presidents, which was held in New York city on Monday of this week, will result in such a harmony as will allow railroad building to be prosecuted on a moderate scale. There is a bearish feeling in financial and business circles generally, but the iron trade has escaped remarkably well thus far. A great many new enterprises are talked of, and, unless unusually discouraging circumstances arise, a great deal of new work will be begun next spring. There are some discouraging features connected with the iron trade, but not of sufficient magnitude to chronicle.

To SOUTHERN corporations, bankers and brokers: The MANUFACTURERS' RECORD will give investment offerings four insertions free, announcements not to exceed one inch in space.

AMERICAN

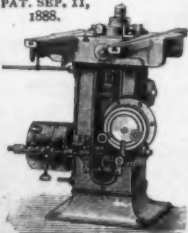
Pig Iron Storage Warrant Co.

(Bank of America Building.)

44 Wall Street, NEW YORK.

Correspondence of Furnaces Invited.

PAT. SEP. 11, 1888.



KEY-SEATERS.

PORTABLE and STATIONARY.
Rack Cutting and Key-Making Attachments.

GIANT KEY-SEATER COMPANY,

East Saginaw, Mich.

NASHVILLE RAPID TANNING AND BELT MANUFACTURING CO.

Manufacturers of Oak Tanned and Rawhide Leather Belting, Lace Leather, Picker Leather, Ropes, Lariats and other Rawhide Leather Goods.
NASHVILLE, TENN.

THE PERFECTION MEAT CUTTER



THE LATEST, BEST and MOST IMPROVED FOR FAMILY USE.
CUTS INSTEAD OF MASHES.
REQUIRES NO REPAIRS.
EQUALLED BY NONE FOR FAMILY USE.
SIMPLE TO USE.
EASY TO CLEAN.
CANNOT GET DULL OR OUT OF ORDER.
No. 1—\$2.00. No. 2—\$2.75. No. 3—\$4.00.
Liberal discount to the trade, and descriptive circulars on application to
AMERICAN MACHINE CO.,
MANUFACTURERS OF HARDWARE SPECIALTIES,
Lehigh Ave. and American St., Philadelphia, Pa.
OR TO MANUFACTURERS' AGENTS:
HENRY KEIDEL & Co., 25 Hanover Street, Baltimore.
JOHN H. GRAHAM & Co., 113 Chambers Street, New York.

PICKANDS, MATHER & CO. Pig Iron, Iron Ore and Coal.

Ferry-Payne Building,
CLEVELAND, OHIO.

THE JACKSON & WOODIN MFG. CO.

Cast Iron Gas and Water Pipe and Castings
OF ALL DESCRIPTIONS.
Berwick, Columbia Co., Pa.
FREIGHT CARS, CAR WHEELS, BAR IRON,
SPECIAL CASTINGS.

EDWARD ALLEN, Practical Lead Burner

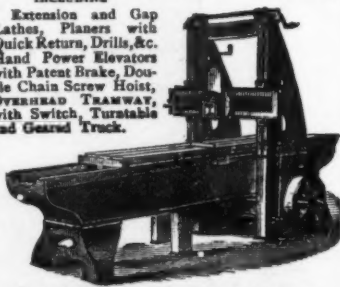
BALTIMORE, MD.
Sulphuric Acid Chambers constructed on the latest improved plan. Strict attention given to the Lead Work of Concentrating Apparatus.
P. O. BOX 214. ESTIMATES FOR THE ABOVE GIVEN.

E HARRINGTON, SON & CO.

Works and Office,
N. 16th St. & Penna. Ave., Phila., Pa., U.S.A.
Manufacturers of a full line of

Iron Working Machinery,

INCLUDING
Extension and Gap Lathes, Planers with Quick Return, Drills, &c.
Hand Power Elevators with Patent Brake, Double Chain Screw Hoist, OVERHEAD TRAMWAY, with Switch, Turntable and Geared Truck.



Gear Cutting a Specialty. Send for estimates.

Represented by J. Q. MAYNARD, 12 Cortland St., N. Y.; C. E. KIMBALL, 93 Oliver St., Boston; W. BUCHNER, 122 Main St., Cincinnati.

Thacher Patent Belt Fastener.



Builders' Hardware.
THE CLAFLEN MFG. CO.
Cleveland, Ohio, U. S. A.



TRADE MARK.
Covert Web Goods, Rope Goods, Snap and Chain Goods
bear the above TRADE MARK, and are sold by all LEADING JOBBERS at Manufacturers' prices.

Covert Manufacturing Co. West Troy, N.Y.

DIXON'S BELT DRESSING AND LEATHER PRESERVATIVE.

It is not a new article. It has the strongest recommendations. It is guaranteed to prevent slipping, and to preserve the leather. It will pay you to send for circulars.

JOS. DIXON CRUCIBLE CO., Jersey City, N. J.



The "Original Candy"

Sewed Cotton Duck Belting.
Especially adapted for Mill Drives, Mills, Cotton Gins, Cotton Presses, and all places where belts are subjected to moisture or atmospheric changes the "CANDY" stands paramount.

For further information, price, etc., apply to
The Candy Belting Co.
BALTIMORE, MD.

SOUTHERN AGENTS: Smith & Courtney, Richmond, Va. Atlanta Rubber Co., Atlanta, Ga. Baker, Sloss & Co., New Orleans, La.

THE BEST & CHEAPEST



STITCHED CANVAS BELTING
THE CHESAPEAKE BELTING CO.
BALTIMORE, MD.

The Only Manufacturers of Raw Hide Belting in the Country.

The Chicago Rawhide Mfg. Co.

MANUFACTURERS OF

RAWHIDE BELTING, LACE LEATHER,

ROPE, LARIATS, FLY-NETS,
Picker Leather, Stock and Farm Whips, Washers, Hame Straps, Hame Straps, Halters and other Rawhide Goods of all kinds, by Krueger's Patent.

This Belting and Lace Leather is not affected by steam or dampness; has more grip than any other; never becomes hard; is stronger, more durable and the most economical Belting made. Especially adapted for the Southern trade on account of its resistance to moisture. The Rawhide Rope for Round Belting Transmission is SUPERIOR TO ALL OTHERS.

73 and 75 OHIO STREET, CHICAGO, ILL.

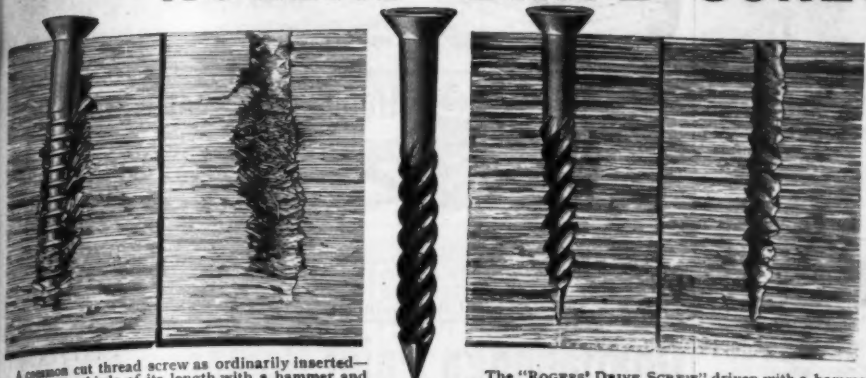


ALSO RAWHIDE LACE LEATHER.

AMERICAN SCREW CO., PROVIDENCE, R. I.

"ROGERS' DRIVE SCREWS."

Patented May 10, 1887; July 19, 1887;
July 19, 1888. Other patents pending.



WIER & WILSON, Agents, Baltimore, Md.

The foregoing illustrations speak for themselves, but we call attention to a few advantages of the "ROGERS' DRIVE SCREWS."

1. Stiffness, adapted for driving with a hammer.
2. Rapidity of insertion.
3. Increased holding surface.
4. Ability to be driven with hammer and withdrawn with screw driver numerous times from same hole.
5. Superior head, which will withstand blows of a hammer and not impair the slot.
6. Improved slot, admitting the use of a heavier screw driver.
7. A Rogers' Drive Screw of small diameter will hold as much as a common screw of a larger diameter.

Discount 66 2/3 per cent. from list of common screws.

VENTILATORS



Made of galvanized iron and copper. Strong up and down. Exhausts foul air, odors, gases, steam, etc. from stores and dwellings; cures smoky chimneys. Perfectly storm-proof. Exhausts iron and copper cornices and gutters. Best metal work for buildings. Send for illustration.

E. VAN NOORDEN & CO.,
80 Harrison Ave., BOSTON, Mass.



W. J. BURTON & CO., Detroit, Mich.

THE ACME ARCHED STEEL EAVE TROUGH HANGER.

PATENT PENDING

GUARANTEED
THE STRONGEST AND BEST
IN THE
MARKET.



THE STANDARD Eave Trough Hanger

PATENTED
MADE OF BEST GALVANIZED
STEEL WIRE.

CHEAP, STRONG,
AND
DURABLE.

For Price List, address

THE CANTON STEEL ROOFING CO.,
CANTON, OHIO.

SOLDIERS AND MANUFACTURERS.

MORGAN'S IMPROVED
Steam and Hot Water Boilers,
For WARMING City and Country Residences,
Hotels, Schools, Churches and Public
Buildings. Send for Catalogue.
THE D. F. MORGAN BOILER CO., Akron, O.

B. F. STURTEVANT'S

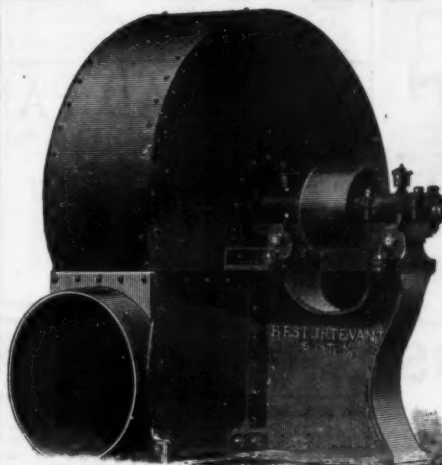
IMPROVED

Steel Plate Exhaust Fan,

FOR

Removing Chips, Shavings and Saw
dust from Wood Working Machin-
ery. Send for catalogue No. 39.

Elevating Wool, Cotton, Cotton-Seed
Seed Cotton Hulls and similar mate-
rials. Send for catalogue No. 27.



B. F. STURTEVANT, BOSTON, MASS.

BRANCHES—97 Liberty Street, New York, 31 North Canal Street, Chicago.
W. R. BURGESS, Agent, Greensboro, N. C.

THOS B INNESS President

R. H. RICHARDS, Vice-President and Manager.

W. L. WALLACE, Secretary and Treasurer.

Friction Clutch Pulleys.

THE SOUTHERN MACHINERY CO.

ENGINES, BOILERS, STEAM PUMPS,
SHAFTING, PULLEYS, AND
HANGERS, RUBBER AND
LEATHER BELTING,
PACKINGS, HOSE,
&c., &c.

RAILWAY EQUIPMENT & SUPPLIES,
IRON & WOODWORKING MACHINERY.

Iron Pipe, Fittings
and Brass Goods, Injectors
and Inspirators, Feed Water Heaters,
All Kinds Tools and Supplies for Machine
Shops, Mines, Quarries, Factories, Furnaces, &c.

27 West Alabama Street, ATLANTA, GA.

RICHMOND CITY MILL WORKS, RICHMOND, INDIANA,

— MANUFACTURERS OF —

FLOUR MILL MACHINERY

IN ALL ITS BRANCHES

A Majority of the Best Flour Mills in the South Equipped by this Company.

CORRESPONDENCE SOLICITED.

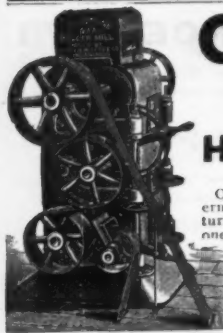
BUY Cheapest FROM STEEL WRITE
MANLY MFG. CO., Dalton, Georgia. RAILINGS, GATES, POSTS, CRESTINGS, JAILS, ROOFS, STAIRS, Lintels, Sills, &c. Cast Columns, Saw Mills. All steel improvements.

W. J. CLARK & CO., Salem, O.
MANUFACTURERS OF
Elevating & Conveying Specialties

Sole Manufacturers of the "SALEM" ELEVATOR
BUCKET, for Mill and Elevator work, Ear Corn,
Corn and Cobs, Ores, Coal, Broken Stone, &c.
Send 3 cents (stamps) for postage on Sample
Salem Bucket and Illustrated Catalogue.

UNIVERSAL PLAIN
MILLING MACHINES
EXCLUSIVE SPECIALTY
ADDRESS
THE CINCINNATI MILLING MACH CO
CINCINNATI, O.

OLNEY BROTHERS,
N. E. Agents for
Binghamton Cylinder & Spindle
AND DEALERS IN
Sperm, Lard, German,
Spindle and Wool
OILS
140 CONGRESS ST., BOSTON, MASS.



CORN MILLS, FLOUR MILLS, HOMINY MILLS.

Our Corn Mill is especially adapted for Southern Meal. Send for circulars. We are manufacturing the largest line of machines made by any one concern in the United States. All high-class and warranted. Address

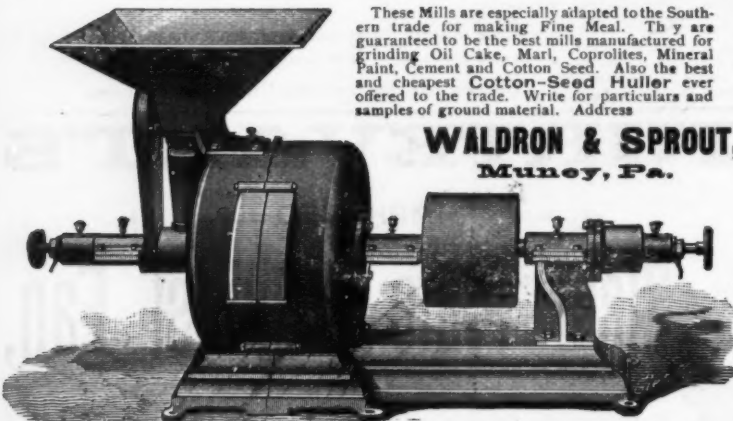
THE J. B. ALLFREE CO.

76 to 86 Shelby Street INDIANA OHS, IND. Four-Roller Wheat Mill.



The Keystone.

FRENCH BURR MILLS,



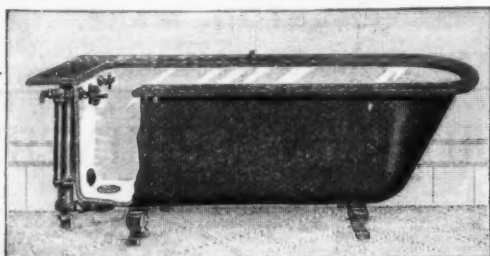
These Mills are especially adapted to the Southern trade for making Fine Meal. They are guaranteed to be the best mills manufactured for grinding Oil Cake, Marl, Coprolites, Mineral Paint, Cement and Cotton Seed. Also the best and cheapest Cotton-Seed Huller ever offered to the trade. Write for particulars and samples of ground material. Address

**WALDRON & SPROUT,
Muncy, Pa.**

Manufacturers of French Burr Mills, Flour Belts, Corn Meal Sieves, Wheat
Scourers and Cleaners, Corn Ear Crushers, &c.

Enameled French BATHS.

WITH PATENT SUPPLY
AND WASTE.



SEND FOR NEW
CATALOGUE.

HAINES, JONES & CADBURY CO.

MANUFACTURERS OF AND DEALERS IN

Plumbers' Supplies and Sanitary Specialties

1136 RIDGE AVENUE, PHILADELPHIA, PA.

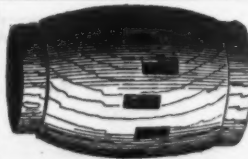
MILNER & KETTIG,



BIRMINGHAM, ALA.

WRITE FOR CATALOGUE AND PRICES.

Prices guaranteed as low as any house in this line in the United States.



R. M. WHITNEY,
MANUFACTURER OF
BLACK BIRCH HUBS.
OLEAN, N. Y., U. S. A.

These Hubs are made in sizes from 6x8 to 16x18 inches, and are especially adapted to dry climates.
Send for Circular and Prices.



Hoop Lock with Draw Bolts.

Unequaled for fastening Iron Hoops on Wooden Cisterns, Tanks and Cylinders: no riveting or Punching of Bands; Adjustable and Strong. Send for circular and prices.

THE WINSHIP MFG. CO., Racine, Wis.

Chattanooga Paint Company, CHATTANOOGA, TENN.

Manufacturers of the

<BEST OXIDE OF IRON PAINT MADE IN THE UNITED STATES.>

Over 18,000 tons made since 1880. 3,000 tons made in 1888. Over 500 certificates regarding its qualities. Either dry or mixed ready for use.

SEND FOR PRICES DELIVERED AT POINT OF DESTINATION

IRON CLAD PAINT CO., Cleveland, O.

Factory, 75 & 77 Central Way. **JAMES WADE, Sec. & Treas.,** 3 Case Bldg.

ORDER DIRECT FROM THE
Iron Clad Paint Co.

And get the genuine article, and save liability of suit for using an article made in violation of the patents issued to Wm. Green, and now owned by this Company.

IRON-CLAD PAINT is the most durable, most fire-proof and cheapest Paint made.

FURNISHED both Dry and Ground in Oil.

USED BY NEARLY ALL THE RAILROADS.

H. E. McWANE, President and General Manager.

W. D. CAMPBELL, Secretary and Treasurer.

THE GLAMORGAN COMPANY, Proprietors of HILL CITY PIPE WORKS



Manufacture all kinds of Hot Furnace, Coking and Mining Machinery; Boilers, Engines, Steamway and Construction Car Castings, and Tobacco Machinery, &c.

Prices on application.
LYNCHBURG, VA.

CHATTANOOGA FOUNDRY & PIPE WORKS.

DAVID GILES, Pres.

C. E. BEXTER, Vice-Pres.

M. LLEWELLYN, Secy. and Treas.

Successors to S. GILES & CO., Chattanooga, Tenn., Manufacturers of



Also Castings and Patterns of Every Description made to order.

SPIRAL WELD STEEL PRESSURE PIPES.

HAMMER WELDED.



Flanges and Hubs and Spigots to the Regular Standards.

STRONG ★ LIGHT ★ CHEAP.

Couplings for all uses.

THE SPIRAL WELD TUBE CO., 43 John St., N. Y.

S. E. NOWLE, Pres.

JOHN E. WARE, Sec. and Treas.

R. F. CARTER, Sept.

THE

ANNISTON PIPE WORKS

ANNISTON, ALA.

MANUFACTURERS OF



CAST IRON GAS & WATER PIPE

Special Castings, General Castings and Machine Work.

Galvanized Iron

PIQUA BEST BLOOM

FOR PROMPT SHIPMENT.

Every Sheet Guaranteed.

THE CINCINNATI CORRUGATING CO.
PIQUA, OHIO.

HOLTON IRON ROOFING
ROOFING SIDING, CEILING & C.
NEW LISBON, O.
AGENTS WANTED EVERYWHERE

SYKES' IMPROVED
Best Roof in the World.
Suitable for all classes of buildings.
May put on.

SYKES PATENT

All my Iron and Steel is re-rolled and box annealed, well painted on both sides with the Best of Paint and Pure Linseed Oil.

SYKES IRON ROOFING CO., Niles, O., & Chicago, Ill.
Send for Circular and Price List, and mention this paper.

THE BERGER MANUFACTURING COMPANY, CANTON, O.

BERGER'S LOCK SEAM STEEL ROOFING

DON'T make arrangements for ROOFING 'till you have seen ours.

It Exceeds all other Metal Roofs.

The Kanneberg Roofing Co., Canton, O.

The Kanneberg Patent, Lock Seamed, Folded Lock Seam, Ready Genuine Steel Roofing

CORRUGATED IRON, (FOUR SIZES OF CORRUGATIONS.)
Crimped Edge Iron Roofing and Siding, Beaded Iron Siding and Ceiling, Water Proof Building Paper, Ready Mixed Paints, Etc.

Waltham Emery Wheel Co., Manufacturers,
WALTHAM, MASS.

By our various processes we can guarantee satisfaction for the greatest variety of work.

EMERY WHEEL MACHINERY.
EMERY, CORUNDUM, Etc.

These wheels can be bought of our agents or ordered direct.

Northampton Emery Wheel Co.
Established 1867. J. L. OTIS, Treas.

Premium Solid Emery AND CORUNDUM WHEELS, AND ALL KINDS OF Emery Wheel Machinery.
LEEDS, MASS.

WESTERN BRANCH:
20 SOUTH CANAL STREET, CHICAGO, ILL.

NORTON EMERY WHEEL CO.

EMERY and Corundum Wheels, Emery Wheel Machinery AND NUMEROUS SPECIALTIES.

THOS. K. CAREY & BROS.
Light Street, Baltimore. Southern Agents.

Write us

LATEST IMPROVED SLIP JOINT EAVE TROUGH,
LONGEST IN THE WORLD, GOES TOGETHER EASILY, NO SOLDER REQUIRED. BEST CONDUCTOR, HANGEI, ETC., ETC.

MADE BY THE CANTON STEEL ROOFING CO., CANTON, O.

PAT'D 1889

CORRUGATED IRON ROOFING CO.
THE CAMBRIDGE ROOFING CO.
MANUFACTURERS OF
CROWL'S PATENT STEEL ROOFING.
CAMBRIDGE, O.

"QUICK-LAID" STEEL ROOFING.

Does away with labor required by others; Makes Roofing Profitable; has no exposed nails, rivets or cleats; is packed in patent packages which protect it in shipping. It pleases all who use it.

MANUFACTURED BY
HEBERLING METAL ROOFING COMPANY, HAVANA, ILL.

The Long Steel & Iron Roofing Co.

(Successors to F. S. KEELY & CO.) Manufacturers of

Steel and Iron Roofing Corrugated Siding and Ceiling, Iron Ore Patent, Cement, &c.

N. F. Cor. Illinois & Merrill Sts., Indianapolis, Ind.
WRITE FOR CATALOGUE AND PRICE LIST.

METAL ROOFING, SIDING AND CEILING.

FIRE-PROOF SHUTTERS AND DOORS.

SHEET IRON AND SHEET STEEL,

Corrugated, Black, Painted & Galvanized.

Don't buy without sending for our Prices and Catalogue.

WHEELING CORRUGATING CO., Wheeling, W. Va.

CORRUGATED IRON & STEEL ROOFINGS.

Special Notice to Metal Roofers, Tanners, Hardware Jobbers and Dealers.

THE GLOBE IRON ROOFING & CORRUGATING CO., Cincinnati, Ohio, desire to form business correspondents and agents throughout the United States for the introduction and sale of their various styles of Steel and Iron Roofings, Corrugated Siding and Ceilings. We are amongst the largest manufacturers of these goods, and our facilities are unequalled, with central location and railroad connections unsurpassed. We are able to reach all sections with promptness and dispatch at low rates. The new tariff duties on tin and other sheet metals will tend to largely increase the demand for STEEL ROOFINGS AND CORRUGATED SIDINGS, and now is the time for dealers to fall into line and increase their business by handling a line of our specialties. We cater exclusively to the dealer and jobbing trade, to whom we make very liberal trade discounts. Write to us for prices, descriptive catalogues and sample models, and we will cheerfully give you bottom prices on the most desirable line to sell from in the United States. Address

GLOBE IRON ROOFING & CORRUGATING CO., CINCINNATI, OHIO.

IMPERIAL BRAND PREPARED ROOFINGS TWO and THREE PLY.
BUILDING PAPERS.

Rosin-sized and Waterproof Sheathings, Parchment Building Paper, Deadening Felts, Plain and Corrugated Carpet Linings, Imperial Asbestos-Roofing, Tarred Roofing Felts, Roofing Materials, &c.

ASBESTOS SHEATHING AND BUILDING FELTS, ASBESTOS STEAM PACKING, PIPE COVERINGS, ETC.

SEND FOR SAMPLE BOOK AND PRICES.

H. F. WATSON, Manufacturer, Erie, Pa. 407 Chamber Commerce, CHICAGO, ILL.

LOWE & TUCKER, Chattanooga, Tenn.

— DEALERS IN —

Pig Iron, Iron Roofing,

RAILROAD AND FURNACE SUPPLIES.

SIMS' PATENT

SIMS & MILLARD, NEWARK, OHIO,
SOLE MFRS. OF
The World's Favorite Adjustable Eave Trough.

No right or left hand in ordering our Trough. It is always Right and made from the Best Galvanized Sheet Steel and Copper, in 8-foot lengths. Write for Descriptive Circulars and Price-Lists. Special Discounts to Jobbers.

Picn Nickel-Plated Finish. Polished Nickel-Plated Finish (Patent Pending.)

The Nickel-Plated Dauber
WITH MUD SCRAPER.

The Neatest, Strongest and Handsomest Dauber in the Market.

Manufactured by **JAMES McQUIDE & SON.**

For sale only by the **EMPIRE PORTABLE FORGE CO., Lansburgh, N. Y., U. S. A., Sole Agents.**

Eastern Lumber Markets.

[Special Cor. MANUFACTURERS' RECORD.]
NEW YORK, December 16, 1890.

It is quite an encouraging thing to be able to say that the lumber market is in good shape. The demand is not by any means what it was a month ago, but any demand at this time is rather surprising. The hard woods deserve special attention this week. Some of our dealers have been working off a great many walnut rejects at nearly \$50; inch culls at \$35; inch boards at \$95. This is rather surprising, because we have been doing very little in walnut for several months; those who have been holding their stocks for better prices have been disappointed, and discovered that they might as well have taken offers made three or four months ago. Walnut is likely to be in better demand during the coming winter than it was last, for the reason that people have been letting it alone for a long time and purchased quartered oak. This lumber is still in the lead; it is going into everything it can be put into. Prices for oak are firm. Cabinet oak is worth about \$35 to \$40, from one to two inches thick. Quartered, \$50 to \$55, according to thickness. Dealers who have been looking around for supplies find that heavy stocks are held by parties who have no notion of letting them go at less than full price. It sometimes happens that lumber drops in price because it is held by people who can hold it only so long and must then sell. We have been working off a good deal of poplar; it is not losing in favor. Prices range from \$30 for one-inch stuff, 10 inches wide, to \$32.50 for two-inch stock. Common is selling at \$22.50; inch ash is selling at about \$36. By comparing these figures with the figures quoted six months ago, we find there is very little difference. Dealers sold a good deal of inch cherry last week at \$85, which is a good price, but it was good cherry. Rejects are moving off at \$40. Common chestnut is selling at \$20, and it has been selling very well. Maple is worth \$28, and birch \$32, and some of it a little more. There is a good deal of interest felt in all kinds of hard wood. Gum, butter ut and sycamore have all been moving in a fair way; everyone feels a little more encouraged, not that business is rushing, for it is not, but all dealers are finding a healthy trade in spite of wars and rumors of wars. Agents are not offering very much lumber on the market. There is this fact to be noted, there is very little shading going on in prices; if dealers cannot sell at figures they quote, they hold on to their lumber. There is a good demand for Eastern spruce; prices are firm, and an advance in later deliveries is likely to occur. Yellow pine is moving into wholesale yards, and from there into retail yards and to consumers in a way that we are not accustomed to see so late in the year. There is not very much doing in North Carolina pine at present. White pine is abundant, and unchanged in price. The situation throughout the country is about the same as last week. The Buffalo market has been affected by a scarcity of money. An advance is talked of. A great deal of lumber has been arriving within the past month, and heavy business has been done at Tonawanda. Monetary conditions are felt there, but this has not prevented a slight advance on small buyers. The rumor of an attempted combination in Georgia yellow pine circles is hardly credited here. A heavy movement is in progress in hemlock throughout the West. Wholesalers of lumber are maintaining a strong position. There is nothing like a surplus of either white or yellow pine anywhere. Stocks are large, but this does not imply a surplus, considering the heavy consumptive requirements in prospect. Western lumber dealers are apprehensive that if the monetary stringency continues, they will be hampered. In Michigan the

season is of course drawing to a close. A good many lumber men in the Northwest are endeavoring to obtain better arrangements with railroads. At Louisville the figures of consumption given are 300,000,000 feet. At Nashville a favorable condition of things is reported. A marked increase in business is reported from Mobile. West of the Mississippi river nothing but good reports are received. Great activity prevailed all through the fall on the Pacific coast; it is probable that great activity will prevail in building operations all through the Rocky Mountain region. The Canadian exports of lumber for the past fiscal year were within a trifle of 30,000,000 tons, which is about one-third of the total exports of that country.

"MONEY WANTED" advertised free of charge by the MANUFACTURERS' RECORD.

THOMAS J. SHRYOCK & CO.
YELLOW PINE COMMISSION
MERCHANTS.
Correspondence Solicited.
BALTIMORE AND WASHINGTON.

E. B. HUNTING & CO.
BALTIMORE, MD.
JACKSONVILLE and FERNANDINA, FLA.
and SAVANNAH, GA.

WHOLESALE MERCHANTS
AND MANUFACTURERS OF
Yellow Pine Lumber

Buy for cash on cars at Mills and sell delivered to all points reached by rail or water. Write Baltimore Office.

FOR THE BEST AND
LOWEST PRICED
GANG LATH MILL
AND BOLTER COMBINED
B. S. ABBOTT
CLEAN N.Y.
Please mention this paper.

ARE YOU TROUBLED

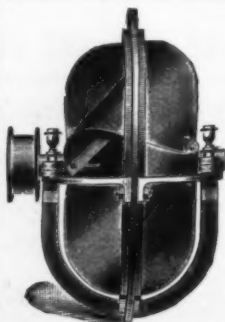
With odors in your kitchen, foul and impure air in your bath or living rooms? If so, examine the merits of

EKSTROM'S VENTILATOR

And Stove-Pipe, Collar, Thimble and Holder Combined.

CHENEY & HEWLETT,
207 BROADWAY, NEW YORK.

Send for Circular. Agents Wanted.



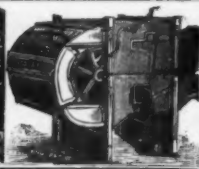
Compound Ventilating Wheel
Pat. January 25, 1887.

For MOVING AIR and everything that floats in air in large volume; small power required. It is NEW in principle, and is the best wheel made for circulating air in all places. Send for the new circular just out.

NATIONAL VENTILATION CO.
68 Pearl St., Boston, Mass.

JOHNSON, SHRYOCK & CO.
HARDWOOD COMMISSION
MERCHANTS.
Correspondence Solicited.
Office, - Shryock Building,
BALTIMORE.

WANTED: 100,000
MORE FARMERS
TO USE THE BEST
AND MOST COMPLETE
FANNING MILL
IN THE WORLD
LOW PRICES
SHIPPED ON APPROVAL
SEND FOR CATALOGUE TO
JOHNSON FIELD, ILL.



SEND FOR NEW PRICES

GEM WIRE

Coat and Hat Hooks

PATENTED.



MANUFACTURED BY

VAN WAGONER & WILLIAMS CO.

82 Beekman St., New York.

Catalogue of Spring Hinges, Door Springs, Wire Coat and Hat Hooks, Blind Adjusters, &c., on application.

COMBINED ANVIL AND VISE.
HARDENED FACE, STEEL JAWS.
5 SIZES--from 10 to 75 pounds.



Anvil and Vise can be used independent of each other. Illustrated Catalogue to all applicants, but discount to Trade Only.
HOLT MANUFACTURING CO.
10th & 10th First Av., Cleveland, O

Bates' Hand Elevators

Pat. April 18, 1871. Released July 25, 1876.
OVER 6,000 IN USE.



Adapted for Warehouses, Stores, Factories, Hotels, Public Institutions and every place where merchandise, &c. is transferred from one story to another.

JAMES BATES,
PATENTEE,
Nos. 1, 3 & 5 President Street, BALTIMORE.



The Jeffrey Mfg. Co.

121 W. State St., Columbus, O.

MANUFACTURERS OF
DETACHABLE CHAIN BELTING
DESIGNED FOR

**Elevators, ♦
Conveyers,
DRIVING BELTS**

For Handling Barrels, Boxes, Bales, Grain, Coal, Ores, &c.

Illustrated 1890 catalogue sent on Application.

Correspondence solicited.



Joyce, Griddland & Co.
DAYTON, O.

MANUFACTURERS OF
J. O. Joyce's Pat. Lever Jacks
Compound Lever
AND SCREW JACKS,
And Bench Vices.
50 varieties of Lever and Screw Jacks for railroad use. Please send for Illustr. catalogue.

COTTON SEED OIL MILLS.
From 5 to 50 tons daily capacity.

These Mills have all the modern improved rollers and produce the most satisfactory oil. Address: **H.W. HUBBARD,** Atlanta, Ga. or Dallas, Tex.

Richmond Iron-Plate Co.

WEATHERPROOF, WATERPROOF AND FIREPROOF.
Never Cracks, Blisters or Peels. Especially adapted for Tin, Zinc, Copper, Iron, Shingles and Board Roofs.



747 1/2 SEPT 30, 1876.

NR. 7,107.

Damp and Imperfect Walls are also Rendered Dry by the use of this Paint and Cement.
N. T. PATE & CO., 1007 E. Cary St., Richmond, Va.

THE GREAT IMPROVEMENT IN ROOFING.

We are now ready to supply the product of entirely new machinery and processes just completed by which we not only have greatly improved the strength and durability of our well-known **ASBESTOS ROOFING**, but have also secured a degree of uniformity never before attained in any similar fabric. We offer it as the **PATENTED** form of the portable Roofing which we have manufactured with continued improvements during the past thirty years, and as the most desirable Roofing for general purposes. The important features of our recent improvements, for which patents have been allowed in this country and in Europe, are described in our new circular, which, with samples, will be sent free by mail. Our Asbestos Roofing is now in use upon Factories, Foundries, Cotton Gins, Railroad Bridges, Cans, Steamboats, etc., in all parts of the world. It is supplied ready for use, in rolls of 90 square feet, and weighs with Asbestos Roof Coating, ready for shipment, about 55 pounds to 100 square feet. It is adapted for steep or flat roofs in all climates, and can be readily applied by unskilled workmen. There are inferior imitations of our Asbestos Roofing, purchasers are cautioned.

Samples and Descriptive Price List sent free by mail.
H. W. JOHNS MANUFACTURING COMPANY,

SOLE MANUFACTURERS OF
**H. W. Johns' Liquid Paints,
Fire-Proof Paints, Building Felt,
Steam-Pipe and Boiler Coverings,
Asbestos Steam Packings, Gaskets, etc.
Vulcanized Moulded Rings, Washers, etc.**
87 MAIDEN LANE NEW YORK.

PURE WATER FROM IRON RUSTLESS PIPES

The best for conveying water.

MADE BY THE
WELLS RUSTLESS IRON CO.
52 JOHN STREET,
NEW YORK CITY.

Notes from Dallas.

DALLAS, TEXAS, Dec. 11, 1890.

Editor Manufacturers' Record:

The stockholders of the Texas State Fair and Dallas Exposition Association met Tuesday to cast up balances and receive the reports of officers entrusted with the management of the last fair and exposition. The reports submitted were most satisfactory. The single item of gate receipts was \$74,952.82; receipts from the sale of privileges, \$22,090.64; total receipts from all sources, \$104,415.44. The gate receipts showed an increase of nearly thirty per cent. over the gate receipts in 1889. This is about the same ratio of increase shown by comparison in most all enterprises fostered and sustained in this city. They are ever enlarging and reaching out after new business. This report shows to what splendid proportions the State Fair and Exposition has grown within the short period of five years. The association has to its credit \$30,000 of mortgage bonds, which, though authorized last year, have not been offered for sale. Permanent improvements were added this year at a cost of \$31,755.64, including a music and art hall combined which cost \$19,113.34.

A statement of the financial condition of Dallas (this) county has just been prepared. It shows the county taxes to be 50 cents on the \$100. For bridge building and repairing during the past two years there has been spent \$109,956.25; for road improvement—macadamizing—\$17,952.20; for right-of-way, \$3,531.52. The total indebtedness of the county is shown to be only \$74,402.50, while the taxable values reach nearly \$40,000,000. The present sinking fund tax, together with the public improvement tax to be collected for the next two years, and embracing balances now on hand in said funds, will be about \$100,000 more than sufficient to take up all outstanding bonds and notes that fall due in 1891 and 1892.

The paper mill, which has been previously mentioned in these columns, will begin operations about the 1st of January, employing about twenty-five operatives from the start.

The people of Texas by their delegates assembled in convention in the city of Houston have already taken action in regard to sending a complete exhibit of the State's various resources, natural and artificial, to the Columbian Exposition. The State legislature will be requested to appropriate \$1,000,000 to be expended in securing the exhibit and bearing the expense attendant upon its exhibition.

British Impressions of the South.

The members of the Iron and Steel Institute of Great Britain who lately visited this country are enthusiastic in their estimates of the mineral and metallurgical nature of the South. This means a great deal for that favored section, as no body of men in existence can control more money than that Institute can, and with the prompt, thick-necked, keen-eyed men which comprise its members, enthusiasm means work. It is doubtful if anywhere in the world there is such juxtaposition of mineral, fuel, transport facilities and favorable climate as exist in Tennessee, Alabama and adjacent States, and the natural wealth there comes as virgin to the hand of the man who sees and embraces his opportunity as the ore itself.—Saturday Globe, N.Y.

DEKSHIRE & BOROM, Omaha, Neb., want catalogues and prices of machinery adapted to the manufacture of school and office furniture.

HAVE you real estate notes, municipal or county bonds that you want to convert into cash? If it is a Southern note or bond you can advertise it free, four times, in the MANUFACTURERS' RECORD.



The SALEM WIRE NAIL CO.

MANUFACTURERS

Wire Nails

Works: SALEM, O.; FINDLAY, O.

General Office: SALEM, OHIO.

BRANCH OFFICES:

261 Broadway, New York. 415 Phenix Bldg., Chicago.
123 Souland Street, St. Louis. 4 Wiggins Block, Cincinnati.

WIER & WILSON,

DIRECT REPRESENTATIVES:

HUBBARD & Co., Axes, Shovels, Hoes and Saws.

AMERICAN SCREW COMPANY, Screws, Bolts, Wire Nails, &c.

A. FIELD & SONS, Tacks and Nails.

WHEELING HINGE COMPANY, Wrought Goods, Butts, &c.

L. D. FROST & SONS, Philadelphia Carriage Bolts.

JOHN SOMMERS' SON, Faucets.

NICHOLSON FILE CO., Files.

HARTFORD HAMMER CO., Hammers and Sledges.

THE HENRY C. HART MFG. CO., Screen Frames, Spring Hinges, &c.

SHERLE & KLEMM, Forks.

HOLROYD & Co., Stocks and Dies.

CLARK BROS. & Co., Bolts, Nuts, etc.

BRANFORD LOCK WORKS.

WHITE MOUNTAIN FREEZER CO.

BLAIR MFG. CO., New, Easy and Bay State Lawn Mowers.

WINCHESTER HANDLE CO., Fork, Shovel, Hoe Handles.

SAMSON CORDAGE WORKS, Braided Sash Cord, etc.

OLD DOMINION IRON & NAIL WORKS CO.

Walker's Horse and Mule Shoes.

PLUME & ATWOOD MFG. CO., Copper Rivets, Jack Chains, Lamps, etc.

JOHN C. SCHMIDT & Co., Trace & Coil Chain.

EXCELSIOR HOOK & BACK BAND CO.

NEW SCOTT MFG. CO., Fruit Parers, etc.

KLINE, LOGAN & Co., Picks, Mattocks, etc.

RIVER FOUNDRY CO., Lull & Porter Hinges, Pulleys, etc.

OFFICE—No. 14 W. German St., BALTIMORE, MD.

Laundry Machinery.

LARGEST STOCK.

LATEST IMPROVEMENTS.

FULLEST LINE.

Washing Machines,

Ironing Machines,

Centrifugal Machines,

Mangles, Wringers, &c.

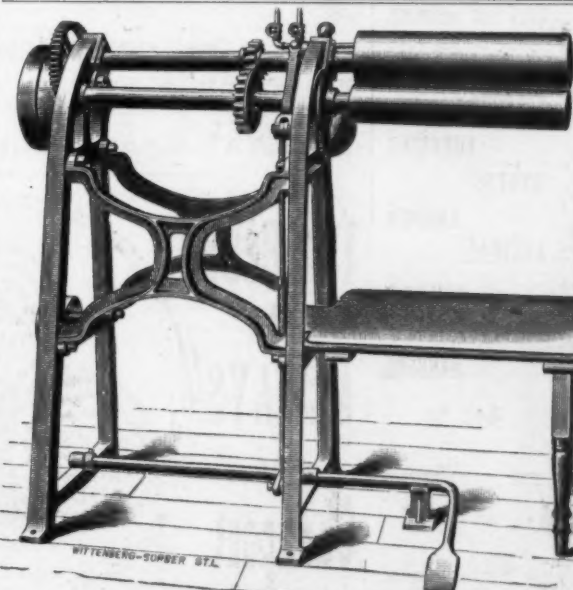
BOILERS AND ENGINES.

—OUTFITS FOR—

Hotels and Public Institutions.

A SPECIALTY.

THE A. M. DOLPH CO.

222 WASHINGTON STREET,
CHICAGO, ILL.40 CORTLAND STREET,
NEW YORK.COR. 9TH ST. & FREEMAN AVE.
CINCINNATI, O.

Geo. J. Fritz's Patent Shirt Body Ironer.

The Fritz Patent ENGINE and BOILER for Laundries,

—AND—

Fritz Patent Band Ironer and Improved Wristband, Sleeve, Yoke and Cape Collar Ironer

Are pronounced by all Laundries using them as THE BEST. Send for Illustrated Catalogue, Price List and my "Book of useful Hints for Steam Users," free to those who mention this paper.

GEO. J. FRITZ, 2008 to 2028 S. Third Street, St. LOUIS, MO.

"The MANUFACTURERS' RECORD is the Most Widely-Quoted Industrial Paper in the World."

Labor-Saving Machinery.

THE BAXTER ELECTRIC MOTOR

Is the BEST MOTOR in the Market for running Printing Presses, Sewing Machines and the Machinery used by Shoe Manufacturers, Clothiers and by all others requiring Motive Force from one to ten horse-power in their work.

ALL MECHANICAL CONTRIVANCES,

ELECTRICAL OR OTHERWISE,

for Saving Labor and Fuel, manufactured to order, and

REPAIRS MADE ON ALL KINDS OF DYNAMOS, Street Car and Stationary Motors

Baxter Electric Motor Co.

Chase, Biddle, Chester and Collington Ave.,

BALTIMORE, MD.

FIRE HOSE.

Christie & LeCount, 351 Canal St., N.Y.

MANUFACTURERS OF

FIRE HOSE.

All Appliances for Fire Protection for Cities or Mills. General Mill Supplies. Send for illustrated circulars.



INDUSTRY FILE WORKS,

A. & H. GOUGH, Proprietors,

Manufacturers of

Files and Rasps

Equal to the best English File.

OLD FILES RECUT.

All kinds of Job Grinding.

OFFICE AND WORKS,

48 Columbus St., Cleveland, O.

C. GOUGH, Manager.

PETER GERLACH & CO.

MANUFACTURERS OF



ALLIGATOR CHISEL-BIT SAWS

THE CHAMPION

Saw, Heading and Shingle Machines.

Ice Tools and Mill Supplies. CLEVELAND, O.

OW.-OW. OW!

What's the Matter?

I Hurt my Hand with a Nail Puller.

Why didn't you buy

SCRANTON'S

IMPROVED

Nail Puller

Which Can't Hurt the Hand?

MADE BY

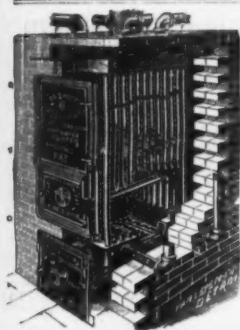
The Belden Mch. Co.

NEW HAVEN,

CONN.

S. A. HAINES CO. 90 Chambers St. New York.

SELLING AGENTS.



BOLTON HOT WATER HEATER.

DETROIT HEATING & LIGHTING CO.

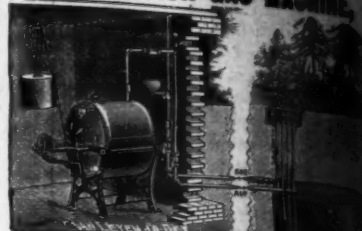
88 Lake Street, CHICAGO, 359 Wight Street, DETROIT, 42 Pearl Street, BOSTON.
508 North Fourth Street, ST. LOUIS, DALLAS, TEX.

BEST RECORD FOR THE LONGEST TIME IN THE COLDEST CLIMATES.

Can Not Leak, having no bolted, packed or flanged joints.
Can Not Crack, being made of Wrought Iron.
Best Fire Surface, all directly exposed to the fire. Best proportion to grate surface.
Drop Tubes. No other known device gives such extensive heating surface, combined into vertical circulation.

BRICK CASING PREVENTS LOSS OF HEAT IN CELLAR.

COMBINATION GAS MACHINE.



Best Independent Lighting Apparatus for Country and Suburban Residences, Churches, Schools, Stores, Homes, etc. Over 20 years in use with never an accident. Average cost of gas 1/4 cent per hour per burner.

THE LONG & ALLSTATTER CO. HAMILTON, OHIO.



Double, Single, Angle-Bar, Gang, Horizontal, Twin, Boiler, Spacing, Gate, Multiple, BELT and STEAM-DRIVEN

Punch & Shears.
Over 300 Sizes.
ALSO
Power-Cushioned
HAMMER.

Heavy Double Machine.

Send for New Catalogue.

Heavy Single Machine.

C. H. DEMPWOLF & CO.

IMPROVED

FERTILIZER MIXING MACHINE

YORK, PA.

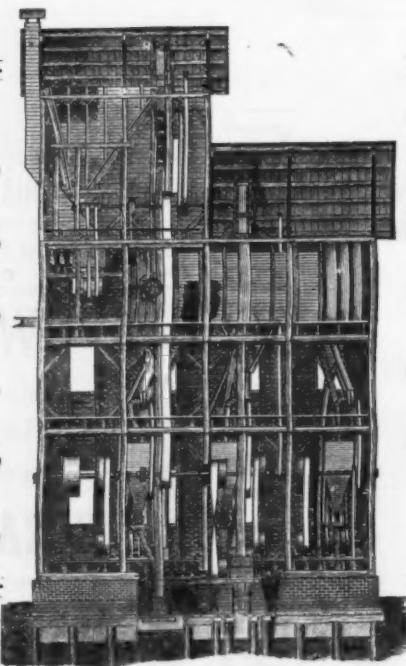
WALKER & ELLIOTT,
Manufacturers
Fertilizer MILL MACHINERY,
Estimates and Drawings on Application.

CORRESPONDENCE SOLICITED.

Automatic Mixers, Bone Mills, Breakers, Buhr Mills, Roller Machines, Pulverizers, Rolling and Shaking Screens, Elevators, Pulleys, Etc. **WILMINGTON, DEL.**

Acid Phosphate Works,

FRISBEE-LUCOP
PULVERIZERS,
CRUSHERS,
MIXERS,
SACKING and
MIXING MACHINES,
AUTOMATIC
DUMP CARS,
ELEVATORS,
CONVEYORS,
ACID EGGS,
AIR COMPRESSORS,



Lead and Antimony,
Valves and Seats,
SULPHUR,
FURNACES,
BOILERS,
ENGINES,
HEATERS,
SHAFTING,
PULLEYS,
HANGERS,
&c., &c.

We are prepared to furnish estimates for Machinery for Complete Works, including Drawings for Mill Building, Storehouse, Engine and Boiler House, &c.

• ALSO PLANS FOR ERECTION OF MACHINERY. •

We refer to the following Fertilizer Works using our machinery, viz: Imperial Fertilizer Co., Charleston S. C.; Wando Phos. Co., Charleston, S. C.; Atlantic Phos. Co., Charleston, S. C.; Edisto Phos. Co., Charleston, S. C.; Ashepoo Phos. Co., Charleston, S. C.; St. Andrews Phos. Co., Charleston, S. C.; Mead & Co., Charleston, S. C.; Berkeley Phos. Co., Charleston, S. C.; Stono Phos. Co., Charleston, S. C.; Rome Chemical Co., Rome, Ga.; Montgomery Fert. Co., Montgomery, Ala.; South Chemical Co., Meridian, Miss.; Nat. Acid Co., New Orleans, La.; Troy Fert. Co., Troy, Ala.; Davie & Whittle, Petersburg, Va.; G. W. Scott Mfg. Co., Atlanta, Ga.; Hammond, Hull & Co., Savannah, Ga.; and Port Royal, S. C.; Baldwin Fert. Co., Port Royal, S. C.

Valk & Murdoch Iron Works, Charleston, S. C.

Niagara Stamping & Tool Company,

MANUFACTURERS OF

Tinners' Machines & Tools,

FOR WORKING SHEET MET L, &c.

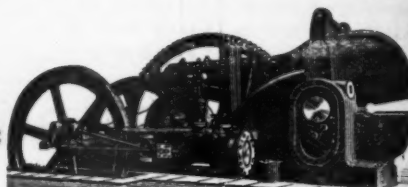
SQUARING and CIRCLE SHEARS,
FRUIT CAN DIES and TOOLS,
CANNERS' OUTFITS.
Superior, Corner of Randall Street,
BUFFALO, N. Y.



Write for our catalogue and price list and mention this paper.

The LLOYD BOOTH CO., Youngstown, Ohio.

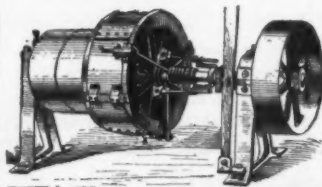
GUIDE,
BAR,
MUCK,
SHEET
AND PLATE
MILLS.



SQUEEZERS,
SHEARS,
ORE MILLS,
ROLL LATHES,
SAND AND
CHILL ROLLS.

Manufacturers of IRON AND STEEL WORKS MACHINERY.

PERFECTLY UNIFORM SPEED



For Dynamos and all classes of Machinery, when run by Water-Wheels, Slow-Speed Engines, or from any General Source of Power that is doing other work.

OUR INTERMEDIATE SPEED REGULATOR

Maintains a Perfectly Uniform Speed, no matter how variable the driving power may be. The speed can be changed at any moment by moving a shipper over a range of 30 per cent. Write for descriptive pamphlet.

T. M. FOOTE REGULATOR CO.

273 Franklin Street,

BOSTON, MASS.

ESTABLISHED 1832 ON PRESENT PREMISES.

The Best
—IS—
ALWAYS
—THE—
Cheapest.



Therefore
BUY OUR
COLOPHINE
—OR—
Perfect Oil

The above are our specialties in MACHINERY OILS, and are the best oils in the price manufactured. We can give you anything in the OIL LINE, any grade, at the very lowest prices. Correspondence solicited.

WM. C. ROBINSON & SON,
MANUFACTURERS AND DEALERS IN OILS

217 South Street Baltimore, Md.

DE
ny,

hlo.

RS
MILLA
THES
D
COLLA

ERY.

D

ry, when
or from
er work.

ATOR

fter how
speed
ing a
at.

ASS

for

com

ELITE

-

1000

ells to
signs, it

WILS

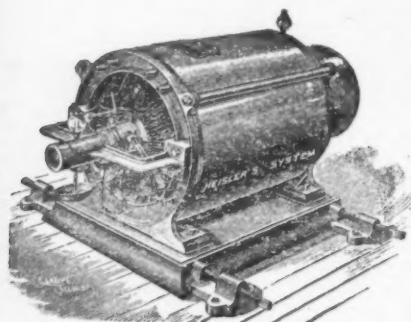
[FOR "CLASSIFIED INDEX," SEE PAGE 2.]

XUM

☼ **HEISLER SYSTEM** ☼

Long Distance Series Incandescent Electric Lighting.

UNEQUALLED FOR DISTRIBUTION OVER WIDE AREAS.



SPECIALLY ADAPTED FOR STREET, COMMERCIAL & GENERAL ILLUMINATION FROM CENTRAL STATIONS.

Plant may be located where power can be secured cheapest, even if miles distant from the lighting. Safety, Reliability, and Financial Success fully demonstrated. Plan of Wiring the Simplest, Cheapest and most Efficient. Strictly Series. Noted for the Brilliance and Beauty of the Light. Lamps, 10 to 100 Candle Power; Long Life without Blackening. Dynamo Self-contained and perfectly Automatic.

Heisler Electric Light Company,

Drexel Building, PHILADELPHIA, PA.

"Awarded the Highest Distinction—a Gold Medal—by the International Jury at the Universal Exposition, Paris, 1889."

Send for Circular.

Correspondence Solicited.

Arc and Incandescent
Electric Lights.

Water Works,
Motors.

Illuminating and Fuel
Gases.

L. N. COX,

16 Fifth Street, S. E.

WASHINGTON, D. C.

Correspondence Solicited. Plans, Specifications, Estimates, &c., cheerfully furnished.

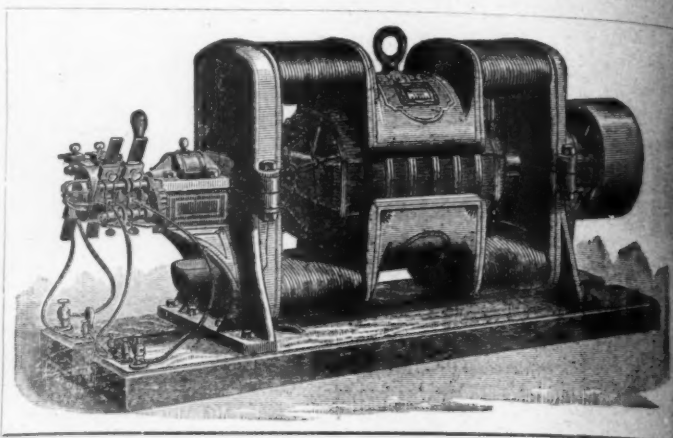
Subscribe to the **MANUFACTURERS' RECORD**
Price \$4.00 a year or 6 months for \$2.00

BUY THE

Schuyler Apparatus

IF YOU WANT

The Best Arc Lighting System.



Office and Factory:

MIDDLETOWN, CONN.

ACKNOWLEDGED SUPERIOR TO ALL OTHERS.

THE THOMSON-HOUSTON SYSTEM

OF

Electric Lighting

DYNAMOS

OF THE HIGHEST ECONOMY AND DURABILITY.

BY

TRANSFORMERS AND LAMPS
OF UNEQUALLED EFFICIENCY.

Alternating Currents.

Minor Appliances of the Same Quality as the Larger Apparatus.

Intending Investors Should Investigate this System. A Slight EXAMINATION will SHOW that all CLAIMS can easily be SUBSTANTIATED.
Send for Illustrated Catalogue on the Alternating Current System.

THOMSON-HOUSTON ELECTRIC CO.

620 Atlantic Avenue, BOSTON, MASS.

148 Michigan Avenue, CHICAGO, ILL.

215 W. Fourth St., CINCINNATI, OHIO.

403-405 Sibley St., ST. PAUL, MINN.

WALL AND LOYD STREETS, ATLANTA, GA.

THE

BRUSH ELECTRIC COMPANY,

* CLEVELAND, OHIO. *

The Best and Most Complete Systems of

Arc Electric Lighting for Central Stations, Etc.

INCANDESCENCE ELECTRIC LIGHTING,

Alternating Current or Long Distance Lighting,

Electrical Power Transmission and Distribution.

FUNDAMENTAL PATENTS ALREADY SUSTAINED BY U. S. COURTS.

The Short Electric Railway Company,

* CONTRACTORS *

FOR ELECTRIC RAILWAYS ON THE SHORT SYSTEMS

AND GENERAL RAILWAY AGENTS FOR

THE BRUSH ELECTRIC COMPANY.

OFFICE AND WORKS: - - - - CLEVELAND, OHIO.

Nicholson File Company,

PROVIDENCE, R. I.

IN
QUANTITY
UNEQUALLED.

IN
VARIETY
UN-
PARALLELED.



IN
QUALITY
UNEXCELLED.

IN
REPUTATION
UN-
RIVALLED.

Manufacturers of EVERY KIND of

FILES AND RASPS.

The CARD ELECTRIC MOTOR & DYNAMO CO.

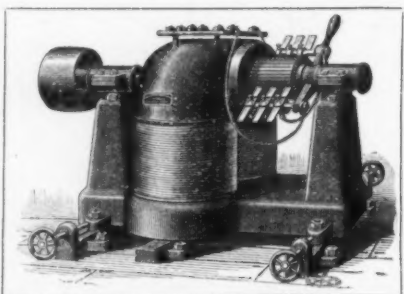
MANUFACTURERS OF CINCINNATI, OHIO.

Electric Motors and Dynamos

Incandescent
DYNAMOS
from 20 to 350
Lights.

Are or Incandescent
MOTORS
from 1/2 to 30
Horse Power.

MOTORS for the
Arc Circuit a
Specialty.



These Motors have
the Highest
Efficiency, Low
Speed and Self-
Oiling Bearings.

AUTOMATIC,
SIMPLE,
DURABLE
AND CLEAN.

Correspondence
Solicited.

The GRINNELL AUTOMATIC SPRINKLER

Recently Modified. Especially Constructed to Resist the Effects of Adhesion,
Corrosion or Sediment, both Inside and Outside the Sprinkler.

FOR INFORMATION AND PROPOSALS APPLY TO

PROVIDENCE STEAM & GAS PIPE CO., Providence, R. I.

BOSTON OFFICE, 173 Devonshire Street.

CHICAGO OFFICE, 115 Monroe Street.

AUTOMATIC FIRE ALARM & EXTINGUISHER CO. (Limited),

94 BROADWAY, NEW YORK.

PHILADELPHIA OFFICE, 49 S. Fourth Street.

John L. Whiting.
Wm. S. Whiting.
Lew C. Hill.

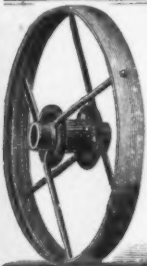
JOHN L. WHITING & SON,

MANUFACTURERS OF

BRUSHES

Cor. High & Purchase Sts.,

BOSTON, U. S. A.



THE HOWELL WHEEL CO.

COVINGTON, KY.

MANUFACTURERS OF

METAL WHEELS,

For Agricultural Implements.

Trucks, Wheelbarrows, &c.

THE STANDARD TOOL COMPANY, Cleveland, Ohio.



Manufacturers of Bit Stock Drills, Straight Shank Drills, Taper Shank Drills
Taper Reamers, Milling Cutters, Chucks, Ratchet Drills, Screw-Driver
Bits, Twist Drill Grinding Machines.

Use
Our

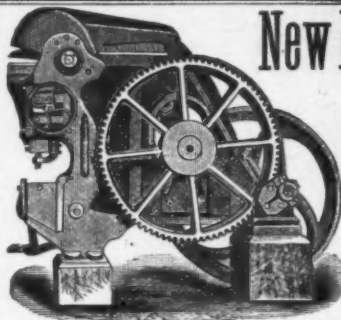
No. 6 1-2 AXLE

For Trucks, Express and Delivery Wagons.
CLEVELAND AXLE MFG. CO., Cleveland, Ohio.

THE KILBOURNE & JACOBS MFG. CO.

COLUMBUS, OHIO, U. S. A.

THE COLUMBUS STEEL TUBULAR WHEELBARROWS.



New Doty Manufacturing Co.

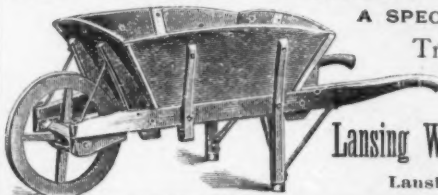
Manufacturers of Hand and Belt Power

Punching & Shearing MACHINERY.

Boiler Makers' Rolls
JANESVILLE, WIS.

MINING AND FOUNDRY BARROWS

A SPECIALTY.

Trucks and
Barrows.

Lansing Wheelbarrow Co.

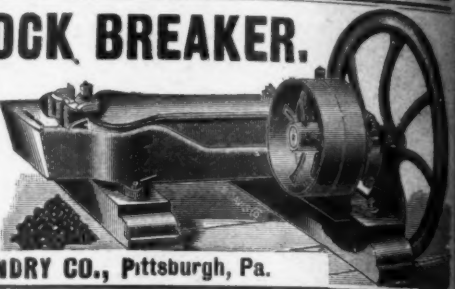
Lansing, Mich.

Forster's ROCK BREAKER.

For Railroads and Macadam.

OVER 400 IN USE.

Does the work of any other
BREAKER with but ONE-
THIRD the power and one-
half the expense of keeping in
repair.



TOTTEN & HOGG

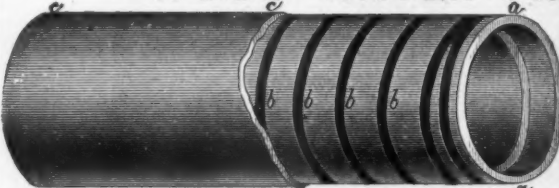
IRON & STEEL FOUNDRY CO., Pittsburgh, Pa.

A. WYCKOFF & SON,

101 East Chemung Place,
ELMIRA, N. Y.

MANUFACTURERS OF

WOOD WATER PIPE

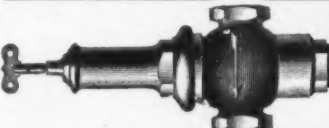


Wood.

Hoop-iron bands.

Asphaltum coating.

FOR
Coal and Iron Mine
COKE WORKS
AND
General Water
SUPPLY.
SEND FOR
CATALOGUE AND
PRICES.



MASON REDUCING VALVES.

OUR STEAM-REGULATING DEVICES are the
Standard used by all the Sugar Refineries, Can-
Heating Companies, Factories and Electric Stations.
If you would economize fuel, write the

MASON REGULATOR CO., BOSTON, MASS.



DETROIT Steel Tackle Block.

HALF THE COST of hoisting saved to Machinists,
Builders, Contractors and OTHERS. Admitted
to be the greatest improvement EVER made
in Tackle Blocks. Write for Catalogue.

FULTON IRON & ENGINE WORKS,

Established 1852.

19 Brush St., Detroit, Mich.



The ORIGINAL UNVULCANIZED PACKING
CALLED THE STANDARD.
As it is the Packing by which all
others are compared.
Accept no packing as JENKINS' PACKING
unless stamped with our "Trade Mark."
JENKINS' BROS.

71 John St., New York. 21 N. Fifth St. Philadelphia.
105 Milk St., Boston. 34 Dearborn St., Chicago.



BUFFALO BLOWERS

CUPOLAS, FORGES, FURNACES &c.
EXHAUSTERS, STEAM FANS,
HEATERS & VENTILATING WHEELS.